

GOLIAD PROJECT



Production Area Authorization

Application for: PRODUCTION AREA-1 (PA-1)

August 27, 2008

Uranium Energy Corp (UEC)

Goliad Project

Production Area Authorization Application for:

Production Area-1 (PA-1)

August 27, 2008

UECUranium Energy Corp

September 4, 2008

RECEIVED

SEP 04 2008

Mr. Ben Knape
Team Leader
Underground Injection Control Program
Industrial and Hazardous Waste Permits Section
Texas Commission on Environmental Quality
112100 Park 35 Circle, Building F
Austin, Texas 78753

WASTE PERMITS DIVISION TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Re: Uranium Energy Corp (UEC) Production Area Authorization Application Goliad Project: Permit No. URO3075

Dear Mr. Knape:

UEC is pleased to submit the enclosed Production Area (PA-1) Authorization Application for its Goliad Project. As required by the rules, 1 original and 3 copies are provided herein. UEC wishes to thank you and staff in advance for the thorough review that you will conduct on the Application. UEC will stand ready to promptly respond to any questions or requests for additional information that you may have during the review process.

Regards,

Craig W. Holmes

UEC Regulatory Consultant

rais W. Halmes

Attachments: As noted.

cc: Harry Anthony, Josh Leftwich and Monica Jacobs



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

APPLICATION FOR PRODUCTION AREA AUTHORIZATION IN SITU URANIUM MINING

I. Applicant: **Uranium Energy Corp (UEC)**

(Individual,

Corporation X

Other Legal Entity)

Address:

100 East Kleberg, Suite 210

(Permanent Mailing Address)

City: Kingsville

State: Texas

Zip: 78363

Telephone Number 361.592.5400

Mine Name: Goliad Project

County: Goliad

Mine Mailing Address (if available):

Permit No. URO3075

Production Area Identification: Production Area-1 (PA-1)

Attachments for a new Production Area Authorization and most PAA amendments

- 1. Mine Location Map
- 2. Proposed Production Area Map - Locating all Baseline and Monitor Wells
- 3. Cross sections of the Production Area
- 4. Description of the Production Area Geology and Hydrology
- 5. Contour Maps of Production Area TDS and Piezometric Levels
- 6. Well logs, Completion Reports, and Mechanical Integrity Reports (1 copy only)
- 7. Hydrologic Test Results and Interpretation
- 8. Ground Water Analysis Reports (All Baseline and Monitor Wells)
- 9. **Ground Water Analysis Report Summary**
- 10. Updated Mine Plan (map and schedule for entire permit area)
- 11. Updated Evaluation of Fluid Handling Requirements vs. Capacity
- 12. **Proposed Restoration Table**

Received and Original Forwarded to Dept

- 13. Proposed Control Parameters Upper Limits Table
- 14. Financial Assurance Information

SEP - 4 2008

SIGNATURE PAGE

I, Harry L. Anthony, P.E.	, Chief Operating Officer
(applicant)	(title)
supervision in accordance with a system de the information submitted. Based on my in persons directly responsible for gathering the knowledge and belief, true, accurate, and co	ment and all attachments were prepared under my direction or signed to assure that qualified personnel properly gather and evaluate equiry of the person or persons who manage the system, or those the information, the information submitted is, to the best of my complete. I am aware there are significant penalties for submitting of fine and imprisonment for knowing violations. Date August 26, 2008
TO BE COMPLETED BY THE APPLIC FOR THE APPLICANT	CANT IF THE APPLICATION IS SIGNED BY AN AGENT
I,(applicant)	hereby designate
as my agent and hereby authorize said agent requested by the Commission, and/or appear Conservation Commission in conjunction with a the tental am responsible for the contents of this application, and for compliance with the tental application.	at to sign any application, submit additional information as may be ar for me at any hearing or before the Texas Natural Resource with this request for a Texas Water Code permit. I further understand as application, for oral statements given by my agent in support of the rms and conditions of any permit which might be issued based upon
Printed or	Typed Name of Applicant or Principal Executive Officer
	Signature
(Note: Application	Must Bear Signature & Seal of Notary Public)
SUBSCRIBED AND SWORN to before m	e by the said Harry L. Anthony
on this day of day	gust, 2008.
My commission expires on the 975 BONNIE TEWES	day of <u>Gune</u> , <u>2009</u> Bonnie Deures Notary Public in and for
Notary Public, State of Texas My Commission Expires June 09, 2009	Kleberg County, Texas

TECHNICAL REPORT

SIGNATURE PAGE

Signature of the Technical Report Supervisor

The technical report of the application must be signed by the technical report supervisor. The supervisor must be a professional engineer, registered in the State of Texas, or a geologist. The technical report supervisor must be competent and experienced in the Class III Underground Injection Control program and be thoroughly familiar with the operation or project for which the application is made. Attach a copy of the supervisor's resume.

I,	Harry L. Anthony	, P.E.	, <u>C</u> hi	ef Operating O	fficer	
	(technical report super	visor)		(title)		
accordance with submitted. Bas responsible for a accurate, and co	n a system design sed on my inqui gathering the informplete. I am avine and imprisonm	ed to assure that ry of the person rmation, the info vare there are si nent for knowing	t qualified person or persons who ormation submitte gnificant penalties	nel properly ga manage the s d is, to the best s for submitting	nder my direction or supervision ther and evaluate the informationsystem, or those persons directly of my knowledge and belief, and false information, including August 26, 2008	ation ectly true,
SUBSCRIBED	AND SWORN t	o before me by t	he said Hou	ry L. ar	thony	
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				guns	<u> </u>	•
T==				Be	Notary Public in and	- d for
William Willia	Notary Publi My Comn	E TEWES c, State of Texas hission Expires 09, 2009		<u> </u>	Notary Public in and	exas
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TECHNICAL REPORT FOR THE PRODUCTION AREA AUTHORIZATION IN SITU URANIUM MINING

The following are to be submitted as the Technical Report to the Application for Production Area Authorization. The applicant shall review the information to be developed with commission staff prior to beginning to collect the information because certain conditions may require additional or different information. All technical information shall be prepared in accordance with the appropriate technical guidelines. Clearly mark the chapters with the indicated chapter identification.

- 1. Mine Location Map Provide a map that locates and identifies the lease area, permit area, and existing and proposed production areas with respect to easily identifiable landmarks such as towns or main roads. See Chapter 1.0 and Figure 1-3, Mine Location Map.
- Proposed Production Area Map Provide an oriented drawn to scale map locating all monitor wells, production wells, and baseline wells, and indicating acreage of the permit area, mine area, depth to the top of the production zone, and elevation of the production zone. See Chapter 1.0 and Figure 1-4 Production Area Map.
- 3. Cross-Section of the Production Area Provide a detailed cross-section along the dip and strike accurately identifying all overlying aquifers, the first underlying aquifer, and the geologic interval to be mined. The geologic interval identified as the "production zone" will be the zone authorized for production by the proposed authorization. The lithologic columns shall be supported with electric logs. Indicate piezometric levels for each aquifer. See Chapter 3.0 and Figures 3-1 through 3-5.
- 4. Description of Production Area Geology and Hydrology Provide a written description of the geology and hydrology of the mine area. Support the geology with maps, cross-sections showing geologic units, lithology, structural features, and other pertinent information. For hydrologic verification, include a description of the major aquifer, hydraulic gradient, water quality indicators (i.e., TDS, Na, SO₄) for the mine area, and other pertinent information. See Chapters 3.0 and 5.0.
- 5. Contour Maps of Production Area TDS and Piezometric Levels Provide maps showing piezometric level and TDS contours for production and non-production zone aquifers with baseline wells located and identified. See Chapter 5.0 and its contour maps of TDS and Piezometric levels.
- 6. Well Logs, Completion Reports, and Mechanical Integrity Test Reports (1 copy) For all baseline and monitor wells, provide the electric well logs and completion reports. Well logs shall have the Production Zone and all aquifers clearly identified. Completion reports shall include casing depths, screened intervals, cementing data, and locations of centralizers. Mechanical integrity tests shall be conducted in accordance with 30 TAC §331.43 on all injection and recovery wells and on any other wells which are to be used to inject fluids. Mechanical integrity test results may be submitted as part of the well completion report or as a separate report. See Appendix C, Well Logs, Completion Reports.
- 7. Hydrologic Test Results and Interpretation Describe in detail the hydrologic testing procedures to be used. This description should include test preparation, test procedures, schedule, and procedures for analysis and summary of the test results. The tests are conducted to:
 - a. Determine the degrees of hydrologic connection between aquifers;
 - b. Determine and locate boundaries and recharge structures; and
 - c. Verify hydrologic connection between the production zone and the production zone monitor wells.

Additional guidance will be found in Technical Guideline II - Hydrologic Testing available on the TCEQ website at: See Chapter 4.0 Hydrologic Testing.

http://www.tceq.state.tx.us/assets/public/permitting/waste/uic/tech_guideline_2.pdf

- 8. Groundwater Analysis Reports For each of the monitor wells and the baseline wells completed in the production and non-production aquifers, provide a completed Groundwater Analysis Report. See Chapters 5.0 and 6.0.
- 9. Groundwater Analysis Report Summary Provide a summary of the parameter values from baseline and monitor wells showing high, average, and low parameter values for each aquifer on forms as shown in Figure 3.

Additional guidance will be found in Technical Guideline I - Groundwater Analysis available on the TCEO website at: See Table 6.1.

http://www.tceq.state.tx.us/assets/public/permitting/waste/uic/tech_guideline_1.pdf

- 10. Restoration Progress Report
 - a. Provide a description of restoration procedures or restoration demonstration procedures, proposed, in progress, or completed.
 - b. Provide a description of the restoration progress that currently has been achieved.
 - c. Provide a description of the fluid handling capacity of the disposal facilities required to accomplish restoration using the proposed restoration procedure within the time frame specified in the mine plan. See Chapter 7.0.
- 11. Up-Dated Mine Plan Provide a mine plan to include:
 - a. Permit Area Map An 8½ x 11" legible and reproducible plan view locating and identifying:
 - (1) Lease area boundary;
 - (2) Permit area boundary;
 - (3) Buffer areas;
 - (4) Individually proposed production areas with acreage of the areas indicated.
 - (5) Production and disposal facilities.
 - b. Schedule A schedule indicating the dates on which it is estimated that both production and restoration will be started and completed in the mine areas identified in 11.a. above. See Chapter 7.0, Figure 7-1 Permit Map and Table 7.1 Updated Production and Restoration Schedule.
- 12. Up-Dated Evaluation of Fluid Handling Requirements vs. Capacity Provide a detailed calculation and tabulation of the volume of fluids to be handled by storage and disposal facilities at their maximum, and comparative capacity of the facilities that will be available. See Chapter 7.0 and Table 7.2 Updated Fluid Handling Requirements vs. Capacity.
- 13. Proposed Restoration Table Provide a proposed table based on the Groundwater Analysis Report Summary in 9 (above in accordance with 30 TAC §331.104). See Chapter 6.0 and Table 6.2 Proposed Restoration Table.
- 14. Proposed Control Parameters Upper Limits Table Provide a proposed table based on the Groundwater Analysis Report Summary in 9 (above with the limit either 25% or 5 mg/l above the highest value for each parameter in accordance with 30 TAC §331.104). See Chapter 6.0 and Table 6.5 Proposed Upper Limits Control Parameters.
- 15. Financial Assurance Information Provide an estimate of the number of existing wells and wells to be drilled, their average depth, and casing size. Include all monitor wells, baseline wells, injection and withdrawal wells, and any other wells necessary for the mining operation. See Chapter 8.0 and Tables

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Introduction

Uranium Energy Corp (UEC) applied to the Texas Commission on Environmental Quality (TCEQ) for a permit to authorize in situ recovery of uranium. The permit application was filed on August 9, 2007. UEC's permit application also included a request for an aquifer exemption covering a portion (approximately 424 acres) of the proposed 1139 acre permit area. Following a comprehensive review, TCEQ issued a proposed Final Draft Permit (Area Permit NO. URO3075) on June 17, 2008. The required 30 day public notice period was completed on July 25, 2008. At this point, TCEQ is completing its response to comments.

Subsequent to filing the mine permit application, UEC began developing all of the required elements for its first Production Area Authorization (PAA) Application. Four initial production areas were identified in the Area Permit Application; however, the order in which they would be mined had not then been finalized. Of the four production sands (Sand A, Sand B, Sand C and Sand D) presented in the Area Permit Application, on-going evaluation of the project has resulted in a decision to seek a PAA for Sand B. Applications for the other production sands will be filed as soon as UEC can complete the wells and technical evaluations needed for those areas. With respect to the first production area (PA-1), the following sections provide a detailed discussion on the site-specific geology, hydrology and water quality characteristics.

1.0 Project Site

1.1 Permit Area

UEC's proposed Goliad Project is located in Goliad County. Figure 1-1 shows the general project location with respect to other Texas counties. A more detailed project location map (see Figure 1-2 in Appendix B) shows the project location with respect to various physical and cultural features within Goliad County. As can be seen from Figure 1-2, the project is located in the northern-most reaches of the county, approximately 13 miles north of the community of Goliad.

The project site is in a rural setting which is relatively remote from major population centers. The immediate area is sparsely populated, and land use is devoted primarily to agricultural activities and the energy sector (oil/gas operations and uranium exploration). The nearest population centers include: (1) Cuero which is in Dewitt County located approximately 18 miles north of the project area; (2) Goliad which is approximately 13 miles south of the project site; and (3) Victoria which is located in Victoria County is approximately 27 miles east of UEC's site. There are no major municipal water supply wells within 5 miles of the project site.

1.2 Initial Production Areas

Figure 1-3 (see Appendix B) is a large scale map showing the permit area and initial production areas with respect to the following:

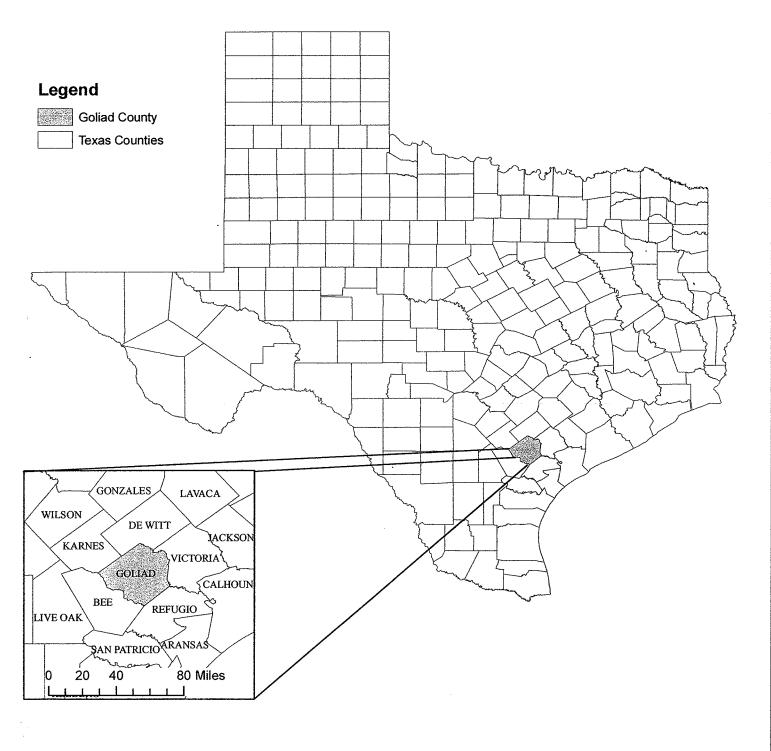
- The topography of the site and adjacent areas;
- The proposed process plant location;
- The proposed waste disposal well locations;
- Faults:
- The proposed aquifer exemption area; and
- Various cultural features such as roads, oil and gas wells, stock tanks, wind mills, gravel pits, residences, etc.

1.3 Production Area-1 (PA-1)

Previously referenced Figure 1-3 (see Appendix B) shows the location of PA-1 with respect to the permit boundary, the proposed aquifer exemption boundary and other project area features.

Figure 1-1 General Project Location





165

330

1-2



660 Miles

Additional details such as Mine Area size, Production Area size, monitor well locations, baseline well locations, average depth to the production zone and the elevation, referenced to Mean Sea Level, (MSL) of the production zone are given on Figure 1-4 Production Area Map. Using data from 239 exploration holes, the production zone's depth from surface is given in Table 1.1, and its elevation (top and base with respect to MSL) is shown in Tables 1.2 and 1.3, respectively.

A review of Figure 1-4 shows that the Mine Area of PA-1 encompasses approximately 94 acres while the Production Area comprises just over 36 acres. There are 22 Production Zone Monitor Wells (BMW-1, 2, 3 ... 22) that encircle the proposed Production Zone. Interior wells labeled PT-1 through PT-6 (Pump Test Wells) and RBLB-1, 3, 4 and 5 (Regional Baseline Wells) are completed in the Production Zone. A fourth set of wells labeled as OMW-1 through OMW-9 are completed in the overlying Sand A.

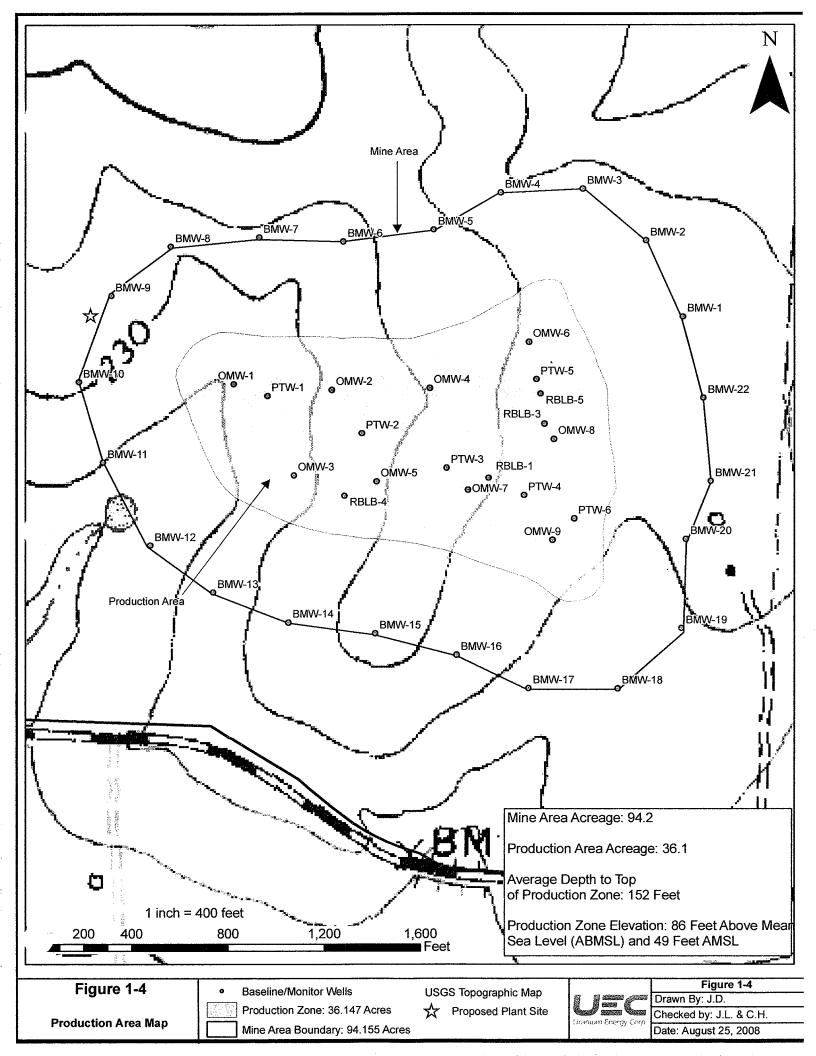
The wells shown on Figure 1-4 serve the following purposes:

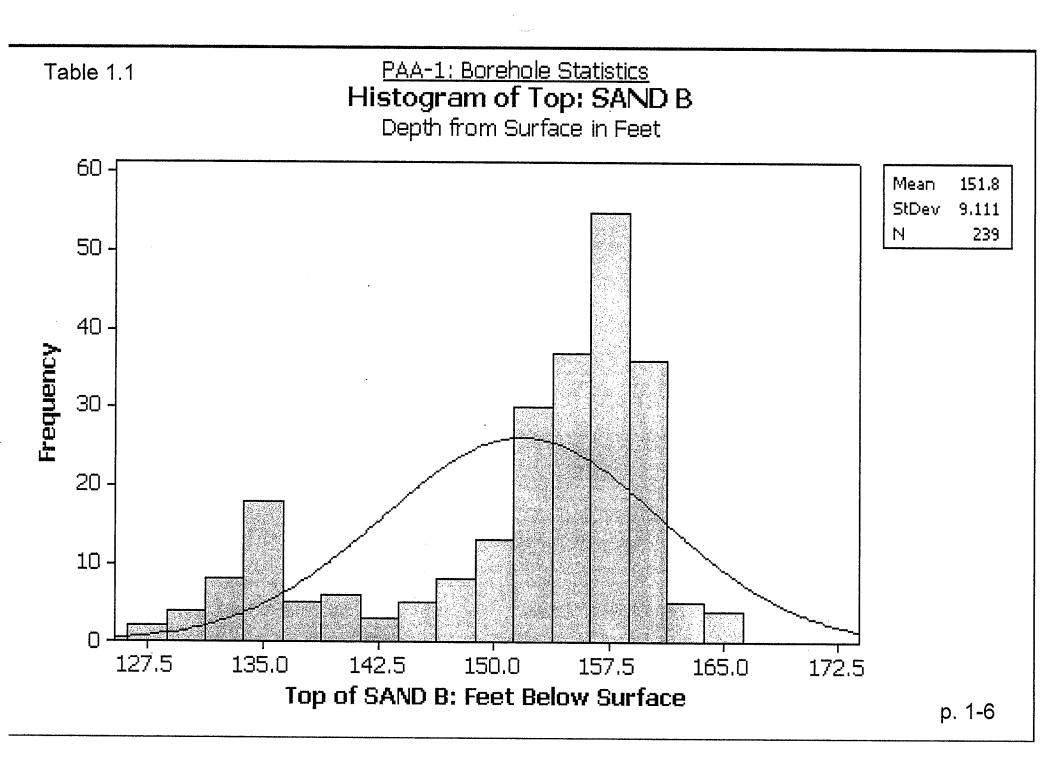
- (1) To provide baseline water quality information within the Mine Area, Production Area and overlying aquifer;
- (2) To provide a basis for conducting hydrologic testing of the aquifers; and
- (3) To provide a pattern of monitor wells for near-future production and restoration activities.

The number and placement of monitor and baseline wells conform to the requirements given in 30 TAC §§§ 331.82, 103 and 104. For example, according to § 331.82(g) designated monitor wells must be at least 100 feet inside any permit boundary, unless excepted by written authorization from the Executive Director; the nearest designated monitor well in PA-1 to the Mine Permit Boundary is approximately 225 feet inside the western boundary. Distances from all other parts of the monitor well ring to the Mine Permit Boundary significantly exceed the 100 foot requirement (see Figure 1-3 in Appendix B).

In addition to following the 100-foot requirement, the monitor well ring was designed to satisfy the requirements given in § 331.103(a). The monitor wells are within 400 feet of the Production Area; they are no greater than 400 feet apart; and the angle formed by lines drawn from any production well to the two nearest monitor wells does not exceed 75 degrees.

The number of monitor wells that must be completed in the first overlying aquifer is specified in § 331.103(b). According to the rule, there must be a minimum of one well for each acre of production area.



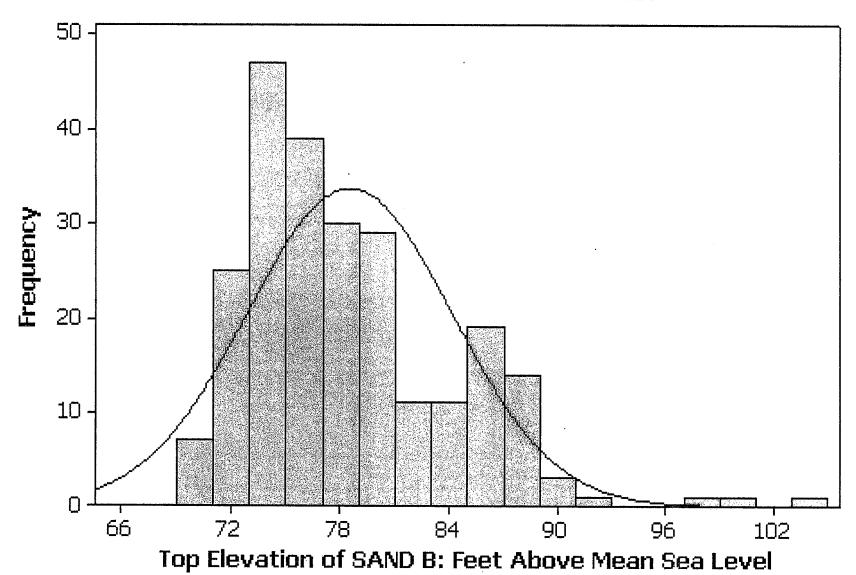




PAA-1: Borehole Statistics

Histogram of Top Elevation: SAND B

Above Mean Sea Level in Feet

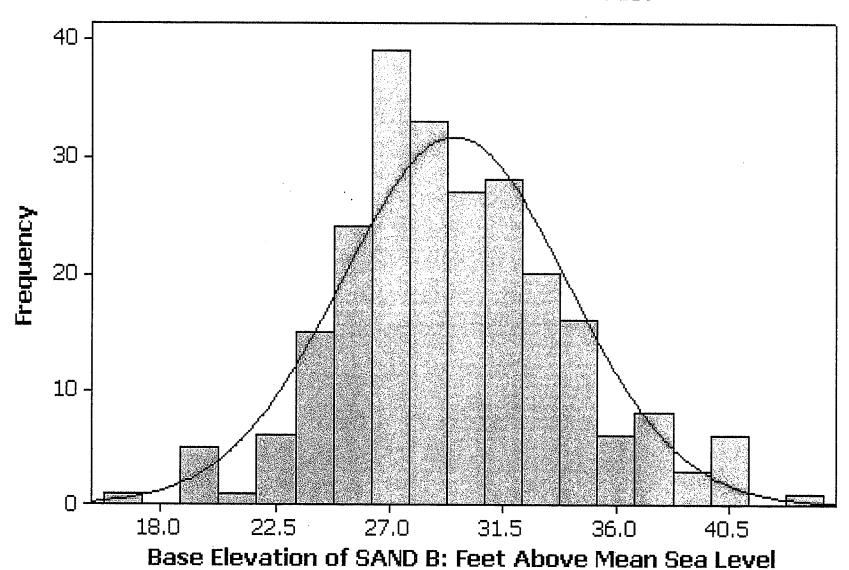


Mean 78.50 StDev 5.670 N 239 Table 1.3

PAA-1: Borehole Statistics

Histogram of Base Elevation: SAND B

Above Mean Sea Level in Feet



Mean 29.54 StDev 4.518 N 239

p. 1-8

Referring again to Figure 1-4, it can be seen that PA-1 has 36 acres of production area and 9 overlying monitor wells. The distribution of the wells above the 36 acre production zone provides significant coverage for monitoring purposes. The well pattern also served to allow baseline water quality to be assessed throughout the overlying 36 acre zone.

With respect to characterizing Production Area baseline water quality, § 331.104(a)(2) requires the collection of a minimum of one or more samples from at least 5 designated production zone wells. In developing Production Area baseline water quality, UEC exceeded the minimum requirement by completing 17 wells. Sample analyses from 10 of the wells are included in this submission. Seven additional wells are scheduled to be sampled in early September. TCEQ is planning to collect samples from some of the baseline wells during the September sampling period. UEC plans to supplement the production zone water quality baseline data with results from the upcoming sampling.

Expanding the number of samples throughout the Production Area will significantly improve the accuracy of baseline conditions, and this in turn will allow for significant improvement in reaching the goals set out in the required Restoration Table.

2.0 Surface and Mineral Ownership

2.1 Ownership Adjacent to the Permit Area

Surface and mineral ownership adjacent to the permit boundary was researched through county courthouse records. Owners and their contact information are summarized in Tables 2.1 and 2.2., and Figure 2-1 shows the location of the surface and mineral owners with respect to UEC's Permit Boundary.

2.2 Ownership within the Permit Area

UEC retained a professional land surveyor, Black Gold Surveying & Engineering, Inc., to survey the Permit Boundary of the project site. The results of the survey are given in Figure 2-2. As can be seen from the map, the 1140.42 acre (more or less) permit boundary is presented on the Peter Gass Survey, A-129, the Squire Burns Survey A-69 and the H.M Frazier Survey A-123 and Squire Burns Survey A-70. Surface and mineral owners within the surveyed Permit Area are shown on Figure 2-3, and their contact information is listed in Table 2.3.

UEC purchased a 17 acre track of land within the permit area in 2008; the location of the tract is shown on previously referenced Figure 2-3. Black Gold Surveying & Engineering conducted a survey of the land and provided the legal description given on page 2-14. Figure 2-4 (see Appendix B) is a survey plat of the property.

Table 2.1 Adjacent Surface Ownership				
Adjacent Tracts	Surface Owners	Acres	Interest	Survey
1	James Bluntzer 1260 Bluntzer Road Goliad TX 77963 361-645-8129	80.925	1.0000	A-69
2	Margaret B. Rutherford 1256 Bluntzer Rd. Goliad, TX. 77963 361-645-2083	37.721	1.0000	A-69
3	Margaret B. Rutherford 1256 Bluntzer Rd. Goliad, TX 77963 361-645-2083	11.130	1.0000	A-69
4	Joseph R. Jacob 213 N. Church Goliad, TX 77963 361-645-3519	263.000	1.0000	A-251 A-118
5	Otto Bluntzer, Jr. 95 Mariposa Dr. Rochester, NY 14624	81.249	1.0000	A-251
6	Mary Bluntzer Gray P.O. Box 876 Craig, CO 81626	81.249	1.0000	A-251
7	Diana Schrade Slafka 12800 Plymouth Circle Anchorage, AK 99516 907-344-3506	52.740	0.5000	A-70 A-129
	Sharon Schrade Bryan 8847 Wood Lane Madisonville, TX 77864 936-348-5642	52.740	0.5000	A-70 A-129
8	Diana Schrade Slafka 12800 Plymouth Circle Anchorage, AK 99516 907-344-3506	80.200	0.5000	A-70 A-129
· ·	Sharon Schrade Bryan 8847 Wood Lane Madisonville, TX 77864 936-348-5642	80.200	0.5000	A-70 A-129
9	Jon Arlis Adickes 14691 FM 1346 St. Hedwig, TX 78152 210-667-1848	1.500	0.3333	A-184

	Laura Sue Adickes Rogers Route 2, Box 272 Canyon, TX 79015 806-488-2313	1.500	0.3333	A-184
	Amy Lynn Adickes Wilburn Route 3 Goliad, TX 77963 361-645-1837	1.500	0.3333	A-184
10	June Bethke 1593 E. FM 1961 Goliad, TX 77963 361-645-2708	7.922	1.0000	A-184
11	St. Peter's Lutheran Church 1545 E. FM 1961 Yorktown, TX 78164 361-645-2922	0.138	1.0000	A-184
12	St. Peter's Lutheran Church 1545 E. FM 1961 Yorktown, TX 78164 361-645-2922	4.460	1.0000	A-184
	Harold Baecker 135 N. Mesquite Victoria, TX 361-578-3738	229.860	0.2562	A-184
13	Nancy Gerhardt 3210 Knoll Manor Kingwood, TX 281-360-2102	229.860	0.6082	A-184
	Glen Baecker 1451 FM RD 1961 Goliad, TX 77963 361-645-8719 361-645-1021	229.860	0.1356	A-184
14	Randy Liesman 215 E. Edgewood San Antonio, TX 78209 210-826-0358	200.310	0.5000	A-129 A-200
	Bruce D. Liesman 215 E. Edgewood San Antonio, TX 78209 210-826-5362	200.310	0.5000	A-129 A-200
15	Pam Long PO Box 222 Goliad, TX 77963 361-564-2214	28.126	1.0000	A-129
16	Jo Nell Martin 641 Crestview Drive Victoria, TX 77905 361-578-3926	28.126	1.0000	A-129

	William & Diana Cheek			7
17	4617 Cobblestone	84.360	1.0000	
17	Corpus Christie, TX 78411			A-129
	361-986-1211			
	Vergie Bitterly			
18	1804 E. Locust	70.444		A-129
10	Victoria, TX 77901	70.411	1.0000	A-495
	361-573-6147			A-289
	Deanna Wacker			
19	1703 E. Locust	72.44		A-129
1	Victoria, TX 77901	70.411	1.0000	A-495
	361-573-3625			A-289
	Cecilia Gleinser Edwards			
20	50 P.R. 5711			
20	Gonzales, TX 78629	36.139	1.0000	A-129
	830-672-8373			
	Thomas & Mary Anklam			
21	14859 N. US Hwy 77a-183	20.000	1.0000	4.400
	Yorktown, TX 78164			A-129
	361-564-9152			
	Michael & Kay Walker 5964 FM 1351	64.330	1.0000	
22				A-129
	Goliad, TX 77963 361-645-1925			11 12)
	Craig Layne Duderstadt			
	722 Duderstadt Road		1.0000	
23	Yorktown, TX 78164	100.000		A-129
	361-564-2081			
	Ernest & Frances Hausman			
	Revoacable Living Trust			
24	103 Oxford Drive	261.370	1.0000	A-69
	San Antonio, TX 78213			
	210-344-1448			
	Diana Schrade Slafka			9.50 P. C. C. C. C. C.
	12800 Plymouth Circle			
	Anchorage, AK 99516	193.100	0.5000	A-69
25				-
23	907-344-3506 Sharon Schrade Bryan			
	8847 Wood Lane	400 :==		į
	Madisonville, TX 77864	193.100	0.5000	A-69
	936-348-5642			

	Table 2.2 Adjacent Mineral Ownerhship						
Adjacent Tracts	Mineral Owners	Acres	Interest	Survey			
1	James Bluntzer 1260 Bluntzer Road Goliad TX 77963 361-645-8129	80.925	1.0000	A-69			
2	Margaret B. Rutherford 1256 Bluntzer Rd. Goliad, TX 77963 361-645-2083	37.721	1.0000	A-69			
3	Margaret B. Rutherford 1256 Bluntzer Rd. Goliad, TX 77963 361-645-2083	11.130	1.0000	A-69			
4	Joseph R. Jacob 213 N. Church Goliad, TX 77963 361-645-3519	263.000	1.0000	A-251 A-118			
5	Otto Bluntzer, Jr. 95 Mariposa Dr. Rochester, NY 1462	81.249	1.0000	A-251			
6	Mary Bluntzer Gray P.O. Box 876 Craig, CO 81626	81.249	1.0000	A-251			
7	Diana Schrade Slafka 12800 Plymouth Circle Anchorage, AK 99516 907-344-3506	52.740	0.5000	A-70 A-129			
	Sharon Schrade Bryan 8847 Wood Lane Madisonville, TX 77864 936-348-5642	52.740	0.5000	A-70 A-129			
8	12800 Plymouth Circle Anchorage, AK 99516 907-344-3506	80.200	0.5000	A-70 A-129			
	Sharon Schrade Bryan 8847 Wood Lane Madisonville, TX 77864 936-348-5642	80.200	0.5000	A-70 A-129			

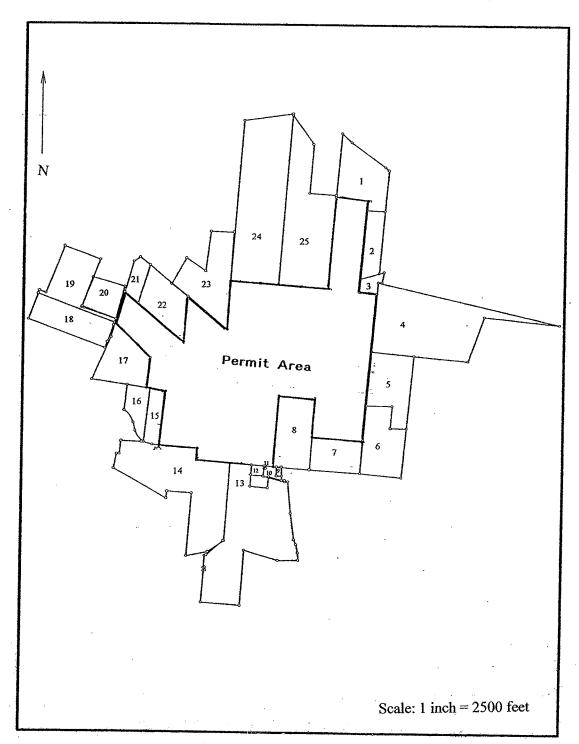
		Jon Arlis Adickes 14691 FM 1346 St. Hedwig, TX 78152 210-667-1848	1.500	0.3333	A-184
	9	Laura Sue Adickes Rogers Route 2, Box 272 Canyon, TX 79015 806-488-2313	1.500	0.3333	A-184
		Amy Lynn Adickes Wilburn Route 3 Goliad, TX 77963 361-645-1837	1.500	0.3333	A-184
	10	June Bethke 1593 E. FM 1961 Goliad, TX 77963 361-645-2708	7.922	1.0000	A-184
	11	St. Peter's Lutheran Church 1545 E. FM 1961 Yorktown, TX 78164 361-645-2922	0.138	1.0000	A-184
	12	St. Peter's Lutheran Church 1545 E. FM 1961 Yorktown, TX 78164 361-645-2922	4.460	1.0000	A-184
	13	Harold Baecker 135 N. Mesquite Victoria, TX 361-578-3738	229.860	0.5000	A-184
,		Nancy Gerhardt 3210 Knoll Manor Kingwood, TX 281-360-2102	229.860	0.5000	A-184
		Randy Liesman 215 E. Edgewood San Antonio, TX 78209 210-826-0358	200.310	0.2500	A-129 A-200
		Bruce D. Liesman 215 E. Edgewood San Antonio, TX 78209 210-826-5362	200.310	0.2500	A-129 A-200
	14	Glyn Jacobs 29930 Cibolo Ct. Fair Oaks Ranch, TX 78015 830-755-8778	200.310	0.2500	A-129 A-200
		Cynthia Gail Garrett 367 US Hwy 183S	200.310	0.1250	A-129 A-200

	Keith Wayne Schindler 367 US Hwy 183S Cuero, TX 77954	200.310	0.1250	A-129 A-200
	361-275-8076 Pam Long PO Box 222 Goliad, TX 77963 361-564-2214	84.360	0.3333	A-129
15	Jo Nell Martin 641 Crestview Drive Victoria, TX 77905 361-578-3926	84.360	0.3333	A-129
	Bonnie Schley Route 4, Box 46 Cuero, TX 77954 361-277-3083	84.360	0.3333	A-129
	Jo Nell Martin 641 Crestview Drive Victoria, TX 77905 361-578-3926	84.360	0.3333	A-129
16	Pam Long PO Box 222 Goliad, TX 77963 Bonnie Schley	84.360	0.3333	A-129
	Route 4, Box 46 Cuero, TX 77954 361-277-3083	84.360	0.3333	A-129
17	William & Diana Cheek 4617 Cobblestone Corpus Christie, TX 78411 361-986-1211	84.360	1.0000	A-129 .
madria et a venir ag	Vergie Bitterly 1804 E. Locust Victoria, TX 77901 361-573-6147	70.411	0.2500	A-129 A-495 A-289
18	Deanna Wacker 1703 E. Locust Victoria, TX 77901	70.411	0.2500	A-129 A-495 A-289
	Dwane Bruns 11638 FM 622 Goliad, TX 77963 361-645-2044	70.411	0.2500	A-129 A-495 A-289
	Reta Bruns Brown Weesatche Hwy Goliad, TX 77963 361-645-3917	70.411	0.2500	A-129 A-495 A-289

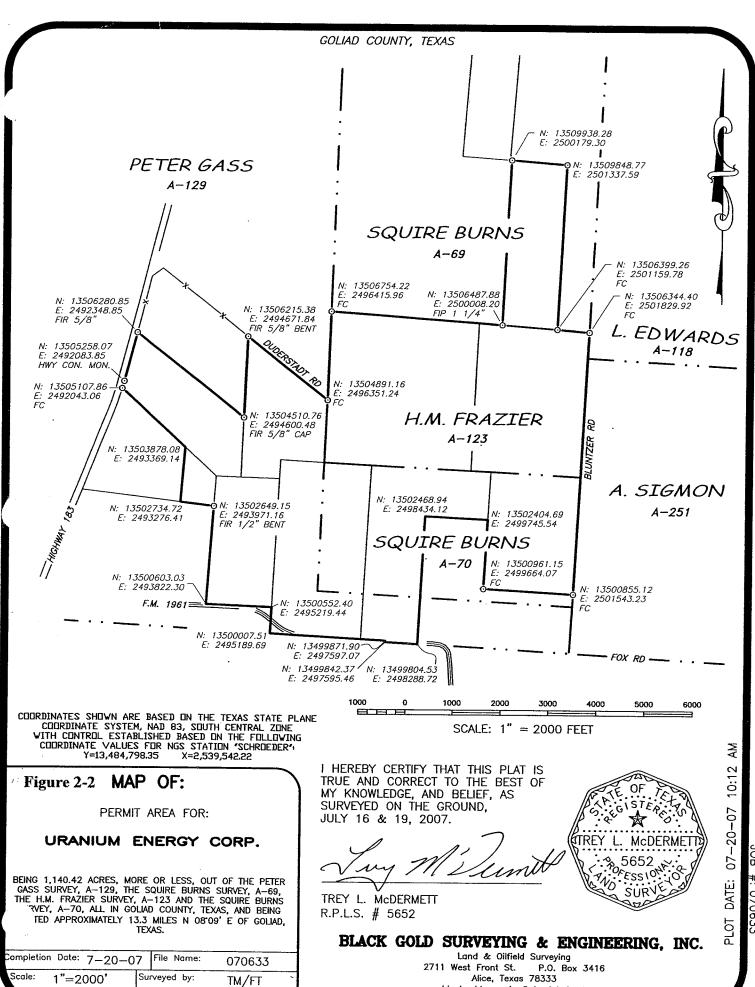
	Deanna Wacker		7		
	1			A-129	
	1703 E. Locust	70.411	1.0000	A-495	
	Victoria, TX 77901		1.0000	A-289	
	361-573-3625 Dwane Bruns				
	i		0.2500	A-129	
	11638 FM 622	70.411		A-495	
	Goliad, TX 77963			A-289	
19	361-645-2044 Reta Bruns Brown		ļ	1120)	
	1		0.2500	A-129	
	Weesatche Hwy	70.411		A-495	
	Goliad, TX 77963			A-289	
	361-645-3917 Vergie Bitterly			+	
	1804 E. Locust		0.2500	A-129	
	1	70.411		A-495	
	Victoria, TX 77901			A-289	
	361-573-6147			1.207	
	Cecilia Gleinser Edwards		1		
20	50 P.R. 5711	07.400	1.0000	A-129	
20	Gonzales, TX 78629	36.139			
	830-672-8373				
1	14859 N. US Hwy 77a-183				
	Yorktown, TX 78164	20.000	0.0313	A-129	
	1				
	361-564-9152 Michael & Kay Walker		•	-	
	5964 FM 1351	·	0.0938	A-129	
	Goliad, TX 77963	20.000			
	361-645-1925 Edna & Russell Jarvis				
	2401 Repsdorph Road		0.5000	A-129	
21	Kemah, TX 77565	20.000			
	281-326-0314				
	Jackie Parks				
	563 Mission Valley Road		0.1875	A-129	
	Cuero, TX 77954	20.000			
	361-277-8318				
	Scott & Margaret Fagan			 	
			0.1875	A-129	
	802 N. Carancahua St., Ste 1655	20.000			
	Corpus Christi, TX 78470				
	361-992-7171		,		
the state of the s	Michael & Kay Walker				
22	5964 FM 1351		0.1250	A-129	
	Goliad, TX 77963	64.330			
	361-645-1925				
	Edna & Russell Jarvis				
	2401 Repsdorph Road		0.5000	A-129	
	Kemah, TX 77565	64.330			
	281-326-0314				
	Jackie Parks				
	563 Mission Valley Road		0.1875	A-129	
	Cuero, TX 77954	64.330			
	361-277-8318				
	[301-211-0310	<u></u>		L	

	Scott & Margaret Fagain			
	802 N. Carancahua St., Ste 1655	64.330	0.1875	A-129
	Corpus Christi, TX 78470			
	Darwyn & Waynell Duderstadt			
23	1708 Wise Road	100.000	1.0000	A-129
	Yorktown, TX 78164			
	361-564-2958			
24	Ernest & Frances Hausman Revoacable	261.370	1.0000	A-69
	Living Trust			
	103 Oxford Drive			
	San Antonio, TX 78213			
	210-344-1448			
	Diana Schrade Slafka			
25	12800 Plymouth Circle	193.100	0.5000	A-69
	Anchorage, AK 99516			
	907-344-3506 Sharon Schrade Bryan	193.100	0.5000	A-69
	8847 Wood Lane			
	Madisonville, TX 77864			
	936-348-5642			

Figure 2-1 Adjacent Surface and Mineral Ownership







Drawn by:

TM/DT

Checked by:

TM/DT

blackgoldsurveying@sbcglobal.net

Fax (361) 668-9204

(361) 668-9200

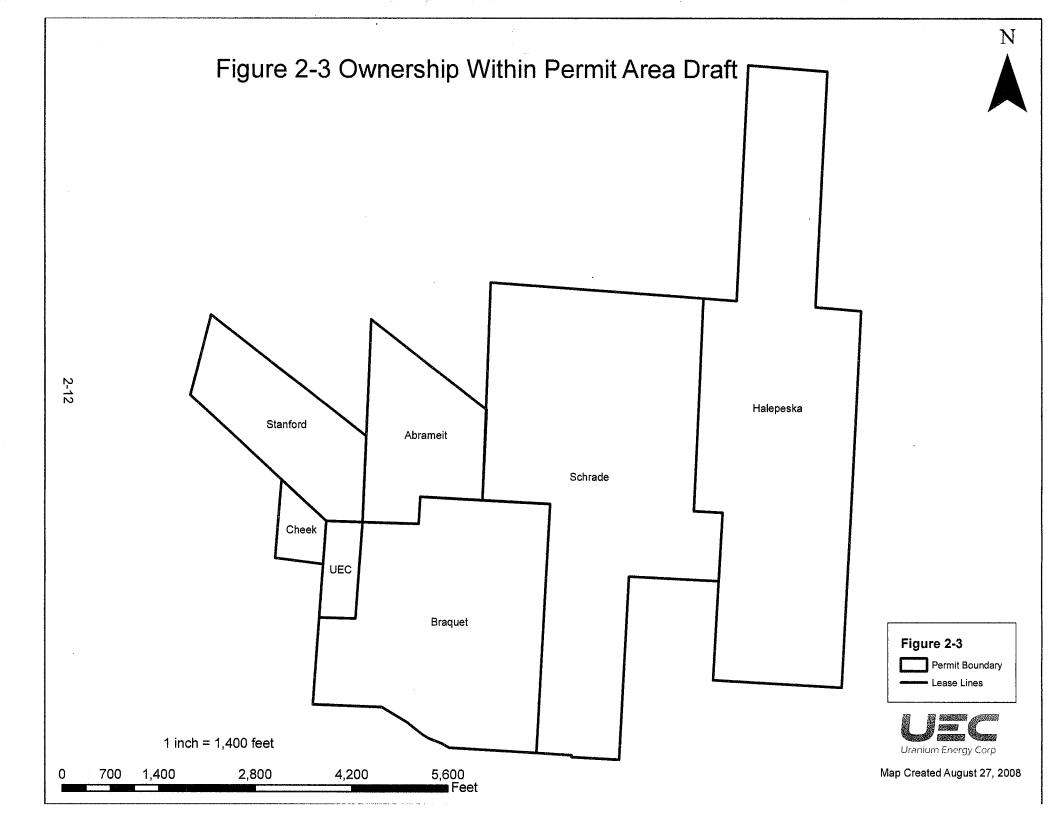


Table 2.3 Ownership within the Permit Area

- 1 Gary Halepeska962 Bluntzer Rd.Goliad, TX 77963
- Elder Abrameit1005 FM 622Victoria, TX 77905
- 3 Margaret Braquet c/o Sydney Braquet 1324 Cortland Street #1 Houston, TX 77008
- 4 David Cheek 14319 North U.S. Hwy 183 Yorktown, TX 78164
- 5 R.G. Stanford 695 Stanford Lane Victoria, TX 77905
- 6 Sharon Schrade Bryan 8847 Wood Lane Madisonville, TX 77864
- Diana Schrade Slafka12800 Plymouth CircleAnchorage, AK 99516
- 7 Uranium Energy Corp9801 Anderson Mill Road, Suite 230Austin, Texas 78750

Note: See Figure 2-3 for owner location.

BLACK GOLD SURVEYING & ENGINEERING, INC.

2711 West Front St. P.O. Box 3416 Alice, Texas 78333 Ph (361) 668-9200 Fax (361) 668-9204 blackgoldsurveying@sbcglobal.net

> 17.0 ACRE TRACT Uranium Energy Corp. Goliad County, Texas

Being a 17.0 acre tract located in the Northwest corner of a called 84.60 acre tract, described as Parcel 2 (Margaret G. Braquet) in Volume 249, Page 148 in the Deed Records of Goliad County, Texas. Said 17.0 acre tract also being out of the *PETER GASS* Survey, Abstract Number 129 and being located approximately 13.6 miles N 06°56' E of Goliad, Texas. This 17.0 acre tract being more particularly described as follows:

BEGINNING at a railroad tie (Y=13,503,275.61 and X=2,494,018.78), being the Northwest corner of said Parcel 2, same being a corner of a called 84.3624 acre tract (R.G. Stanford), as recorded in Volume 257, Page 115 in the Deed Records and a called 84.3624 acre tract (William David Cheek, et ux), as recorded in Volume 178, Page 346 in the Official Records of Goliad County, Texas, for the Northwest corner of this herein described tract;

THENCE-S 88°19'30" E (called S 86°30' E), a distance of 528.41 feet to a railroad tie, being on the North line of said Parcel 2 for the Southeast corner of said R.G. Stanford tract and the Southwest corner of a called 84.3624 acre tract (Elder Abrameit), as recorded in Volume 256, Page 432 in the Deed Records of Goliad County, Texas, for the Northeast corner of this herein described tract;

THENCE-S 04°12'17" W, a distance of 1,402.78 feet to a 5/8" iron rod set for the Southeast corner of this herein described tract:

THENCE-N 88°19'30" W, a distance of 528.41 feet to a 5/8" iron rod set for the Southwest corner of this herein described tract:

THENCE-N 04°12'17" E (called N 05°15' E), along and with the West line of said Parcel 2, same being the East line of a called 84.3624 acre tract, as recorded in Volume 400, Page 859 in the Deed Records of Goliad County, Texas, and the East line of said William David Cheek, et ux tract, a distance of 1,402.78 feet to the **POINT OF BEGINNING** and containing 17.0 acres, more or less, within these metes and bounds.

All bearings, coordinates and acreage are based on the Texas State Plane coordinate system, NAD83, South Central Zone, with control established based on the following values for NGS

station
"SCHROEDER"
Y=13,484,798.35 and X=2,539,542.22

3.0 Production Area Geology and Hydrology

The affixed seal covers the entire contents of this chapter.



3.0 Production Area Geology and Hydrology

3.1 Geology

The permit area is located within the outcrop of the Goliad Sand. The Goliad Sand generally consists of up to 500 feet of light colored sand and sandstone (typically impregnated with caliche) interbedded with clay and gravel. In Goliad County, the subsurface strata generally strike from southwest to northeast and dip to the southeast at approximately 20 feet/mile near the outcrop, and up to 70 feet/mile away from the outcrop (Dale, et al., 1957).

As will be seen in the sections to follow, the descriptive surface and subsurface geology will mirror that given in UEC's Mine Permit Application (MPA), and the same can be said for site-specific hydrology. Because of the expanded database (e.g., the completion of a significant number of monitoring and baseline wells; additional baseline water quality testing; additional exploration/delineation holes; and the completion of hydrologic testing), the subsequent discussions provide a higher level of information and a refinement of the Production Area (PA-1).

As described in Chapter 1.0, the Mine Area (the area encompassed by the Monitor Well Ring) in PA-1 is approximately 94 acres and the Production Area is a little over 36 acres. In preparing a detailed geologic study of PA-1, four dip and strike cross-sections were constructed. The locations where the cross-sections transect PA-1 are shown on Figure 3-1 Cross-section Index Map (see Appendix B). Figure 3-1 also identifies the exploration holes and wells that were used in constructing the cross-sections.

3.1.1 Stratigraphy and Lithology

Within the permit area, the Goliad Formation consists predominantly of fluvial facies, having a relatively high sand content. The up dip parts of the sand axes contain abundant amounts of coarse grained sand and gravel deposited by braided streams and grade down dip into meanderbelt deposits. Farther down dip, the fluvial system grades into deposits of a wave-dominated deltaic system. Generally, the relict river systems to the north of the San Antonio River carried higher sand loads than the relict river systems to the south (Solis, 1981).

The Goliad Formation is approximately 400 feet thick in the permit area, and it is divided into four discrete sand units: Sand A, Sand B, Sand C, and Sand D. Each of the sand units, with the exception of a portion of Sand A across the Northwest Fault, is overlain and underlain by a relatively thick clay/shale layer throughout the permit area. Each of these sand units appears to constitute a discrete individual aquifer unit within the permit area. Figures 3-2 through 3-5 are detailed strike and dip oriented cross-sections through PA-1 which show the stratigraphical, lithological, and structural relationships of the individual sand units. Individually, each of the sand units is confined above and below by a clay/shale layer. Continuity of the confining zones establishes the basis for sand unit definition. The confinement discussed above was thoroughly evaluated by hydrologic pump tests, and the results confirm the effectiveness of the extensive confining layers across PA-1 (see Chapter 4.0, Hydrologic Testing).

Sand A is the upper-most sand in the permit area. In the MPA it was shown that Sand A is overlain by a clay/shale confining layer which has a thickness ranging from about 50 to 70 feet. With the exception of where it outcrops across the Northwest Fault, the clay/shale confining layer is persistent throughout the permit area on the down thrown of the Northwest Fault where production is being planned.

The approximate thickness of Sand A in PA-1 ranges from about 45 to 70 feet (see cross-sections). The upper and lower boundaries of Sand A are discernible on electric logs, and generally quite clear in drill cutting samples. As indicated on the cross-sections the unit is pervasive throughout PA-1. The average depth to the base of Sand A is 99 feet below ground level (BGL) and the average thickness is 65 feet.

Sand B is the next lower sand unit below Sand A. The average depth to the top of Sand B is approximately 152 feet BGL. Sand B, the production zone of PA-1, ranges in thickness from 30 to 50 feet across PA-1 (see Figure 3-6 Net Sand Map in Appendix B). The confining layer between Sand A and Sand B is shown on Figure 3-7 Isopach Map — Thickness of Overlying Confining Layer (see Appendix B). From this figure, it can be seen that the two sands are isolated from each other by a substantially thick clay/shale barrier ranging between 40 and 50 feet in thickness.

Referring again to the cross-sections, it can be seen that Sand C is the third unit, and a proposed production zone, encountered below the surface. The average depth to the top of Sand C is 233 feet BGL and the average depth to the base of Sand C is 269 feet BGL, resulting in an average thickness is 36 feet. Sand C is isolated from overlying Sand B by approximately 20 to 30 feet of clay/shale (see Figure 3-8 in Appendix B).

Sand D is the second underlying sand unit below Sand B. As demonstrated in the MPA, Sand D is isolated from the overlying Sand C and the underlying Lagaro Formation by shale/clay confining layers. A number of the logs in the cross-sections show the Lagarto Clay at the base of Sand D. The average depth to the base of Sand D is 385 feet BGL and its average thickness is 80 feet.

The Lagarto Formation (aka Lagarto Clay) of the Fleming Group (Miocene) underlies the Goliad in the permit area and extends from the base of the Goliad to a depth of approximately 1600 feet BGL. The upper Lagarto looks very similar lithologically to the Goliad. In general, the upper part of the Lagarto is sandier than the middle and lower portions. The sands in the upper portion of the Lagarto are considered part of the Evangeline Aquifer System; however the sands are separated from the overlying Goliad by relatively thick clay layers and probably constitute a discrete aquifer system comprising the first underlying aquifer. In general, the Lagarto is described as clay and sandy clay with intercalated beds of sand and sandstone (Dale, et al., 1957).

The Lagarto is underlain by the Oakville Sandstone (Fleming Group-Miocene). The Oakville unconformably overlies the Catahoula Tuff and crops out to the west and northwest of Goliad County. The Oakville consists of up to 700 feet of crossbedded sand and sandstone interbedded with lesser amounts of sandy, ashy, bentonitic clay.

3.1.2 Structural Geology

As indicated on previously referenced cross-sections and project maps, two strike oriented (southwest to northeast) normal faults are present in the permit area. Based on limited discernable fault intercepts on geophysical logs from exploration holes drilled near the faults, both faults have been determined to be high angle with dips of 65 to 70 degrees. Consequently, the faults are mapped primarily based on stratigraphic offset of correlative beds as indicated on the cross-sections. The fault in the northwest portion of the project area is downthrown on the south side of the fault and demonstrates variable offset but generally indicates approximately 75-80 of the Sand A structural surface.

The fault in the southeast portion of the project area is downthrown to the north side, thus forming a graben structure with the northwest fault through the middle of the mine permit area. Displacement along this fault is approximately 35 feet.

The proposed PA-1 production area is situated entirely within the graben and there are no identified structural features associated with the proposed PA-1 area. Both faults completely traverse the mine permit area and thus their extent in the north-south direction has not been delineated.

3.2 Production Area Hydrology

The following is a brief overview of site hydrology along with an identification of the various sands and confining layers. The purpose of the overview is to provide a general background to site-specific conditions. Because hydrologic pump testing was completed for PA-1, considerably more detail of the site's hydrologic properties is given in Section 4.0 Hydrologic Testing.

It was discussed in the MPA that groundwater movement across the site is generally to the southeast and that the hydraulic gradient is approximately 5.5 feet per mile. It was also estimated in the MPA that groundwater flow is approximately 6.7 feet per year. Additional information from the pump tests show that groundwater flow is approximately 7.9 feet per year.

It was stated in the section on geology herein and in the MPA that on a regional basis the Goliad may be viewed as a single, large aquifer system. It was also noted in the MPA that on a site-specific level (i.e., the permit area) each of the four sands functions as an isolated aquifer; the results of the hydrologic pump test clearly show the isolation of the four sands from each other. Following is a summary description of the aquifers present within the project area.

At UEC's project site, the Goliad Sand outcrops at the surface and is part of the first aquifer unit encountered in the subsurface (previously referenced Sand A). As described in the MPA, the Goliad is entirely contained within the Evangeline Aquifer; however the aquifer unit also extends into sands within the upper portion of the underlying Fleming Group. The Evangeline is typically wedge shaped and thickens significantly toward the coast. The Evangeline has a high sand-clay ratio and is a prolific aquifer moving towards the coast (Baker, 1979). In Goliad County, the Goliad Sand consists of up to 500 feet of predominantly sand containing some clay and gravel beds and is reported to yield small supplies of variable quality water to wells (Dale, et al., 1957).

The Burkeville Confining System lies beneath the Evangeline Aquifer in the regional study area. The Burkeville is a hydrostratigraphic unit that separates the Evangeline Aquifer from the underlying Jasper Aquifer. The Burkeville generally corresponds to the Lagarto Clay of the Fleming Group and contains a relatively large percentage of silt and clay compared to the overlying and underlying aquifers and retards the interchange of water between the aquifers (Baker, 1979).

In Goliad County, the Lagarto Clay consists of 800 to 1,200 feet of clay and sandy clay containing interbedded layers of sand and sandstone capable of yielding moderately large quantities of water to wells (Dale, et al., 1957).

The Jasper Aquifer lies beneath the Burkeville Confining System in the Texas Coastal Plain region. In the regional study area, the base of the Jasper Aquifer corresponds with the base of the Oakville Sandstone of the Fleming Group and generally denotes the base of the USDW.

The uppermost aquifer within the UEC Permit Area is the Evangeline Aquifer. In general, the Evangeline Aquifer consists of the Goliad Sand in the regional study area.

However, the boundary of the Evangeline may extend into the sands of the underlying Lagarto Clay of the Fleming Group. The Goliad Sand is reported to unconformably overlie the Lagarto Clay; however the basal sands of the Goliad are hard to distinguish from the sand beds within the upper portion of the Lagarto (Dale, et al., 1957). In general, the Goliad Sand consists of up to 500 feet of predominantly light colored, fine to coarse grained, sand and sandstone with interbedded clay and gravel. The sand and gravel are typically impregnated and cemented with caliche, which imparts the characteristic light color to the sands. The Goliad is reported to yield small quantities of variable quality water to wells in Goliad County. In the UEC permit area the base of the Goliad occurs at an approximate depth of 400 feet BGL.

The four sands (Sand A, Sand B, Sand C and Sand D) in the mine area were described in Section 3.1.1 in terms of their depths, elevations, thicknesses and confining layers and therefore the descriptions will not be repeated here.

The Lagarto Clay (Fleming Group) is the next stratigraphic unit encountered beneath the Goliad Sand. The Lagarto conformably overlies the Oakville Sandstone in Goliad County. The Lagarto is reported to consist of up to 1200 feet of dark colored clay and sandy clay with intercalated beds of sand and sandstone. In the permit area, the sand beds contain fresh water, which may be of better quality than that found in the overlying Goliad (Dale, et al. 1957). In general, the upper part of the Lagarto is sandier than the middle and lower portions. The sands in the upper portion of the Lagarto are considered to be part of the Evangeline Aquifer System; however the sands are separated from the overlying Goliad by relatively thick clay layers and probably constitute a discrete aquifer system comprising the first underlying aquifer. The middle and lower portions of the Lagarto constitute the Burkeville Confining System hydrostratigraphic unit described previously.

However, discrete sands within the lower and middle Lagarto may contain large supplies of fresh water, which is reported to be under artesian pressure in the middle part of Goliad County (Dale, et al.1957). The town of Goliad, which is located approximately 14-miles to the south of the permit area, utilizes municipal water supply wells producing from the Lagarto Clay.

The Lagarto is underlain by the Oakville Sandstone. The Oakville generally comprises the Jasper Aquifer System and essentially is the base of the USDW in the proposed UEC Permit Area. The Oakville consists of up to 700 feet of cross-bedded sand and sandstone interbedded with lesser amounts of sandy, ashy, bentonitic clay (Dale, et al. 1957).

3.2.1 Water Quality Indicators

A comprehensive baseline water quality sampling program was conducted for PA-1. The Mine Area, Production Area and overlying Non-production Zone were analyzed for 26 water quality parameters. In addition, water levels recorded and poteniometric surface maps were made for the area. A full discussion on these elements of the aquifers is the subject of Chapters 5.0 and 6.0 of this Application.

4.0 Hydrologic Testing

The affixed seal covers the entire contents of this chapter.



4.0 Hydrologic Testing

The hydrologic testing was performed to comply with TCEQ requirements to obtain a Production Area Authorization (PAA) for in-situ uranium recovery. These requirements stipulate that hydrologic testing must be used to quantify the response of the aquifer that will be mined. PAA-1 is located in Goliad County, near Weesatche, Texas. Hydrologic testing was performed at the PAA-1 site on July 8 through July 15, 2008.

4.1 <u>Test Methodology, Procedures and Goals</u>

The goals, test location, methodology and procedures are discussed in the sections that follow.

The first goal was to confirm that there is hydraulic communication between the monitoring well ring and the wells within the production zone sand (Sand B). This was accomplished by pumping the interior wells completed in the production zone and recording the water levels in the monitoring well ring to show that the production zone monitor wells will in fact be able to detect fluid movement from where uranium recovery is occurring (the production zone). During recovery operations, a net drawdown or "bleed" is maintained in the ore zone by producing (i.e., removing) approximately 1% more water than the amount being injected. This means that there will be a hydraulic barrier to prevent fluid from moving out of the production zone. As an added measure of safety, water quality in the monitor wells must be monitored throughout the recovery and restoration phases of the operation.

The second goal was to analyze the pumping test results. This was done to obtain data on the aquifer's hydraulic characteristics such as transmissivity, storativity, and hydraulic conductivity. Also, if the data can be analyzed using standard hydrologic techniques, it demonstrates that the drawdown was indeed induced by the testing and not some incidental activity.

Both the drawdown phase and the recovery phase of the test were recorded and analyzed.

The third goal was to determine if there is hydraulic communication between the ore sand and the overlying water-bearing zone. The area in Production Area-1 (PA-1) has only one overlying aquifer; Sand A. It is necessary to establish that there is no communication between the fluids in the ore zone and water in overlying aquifers.

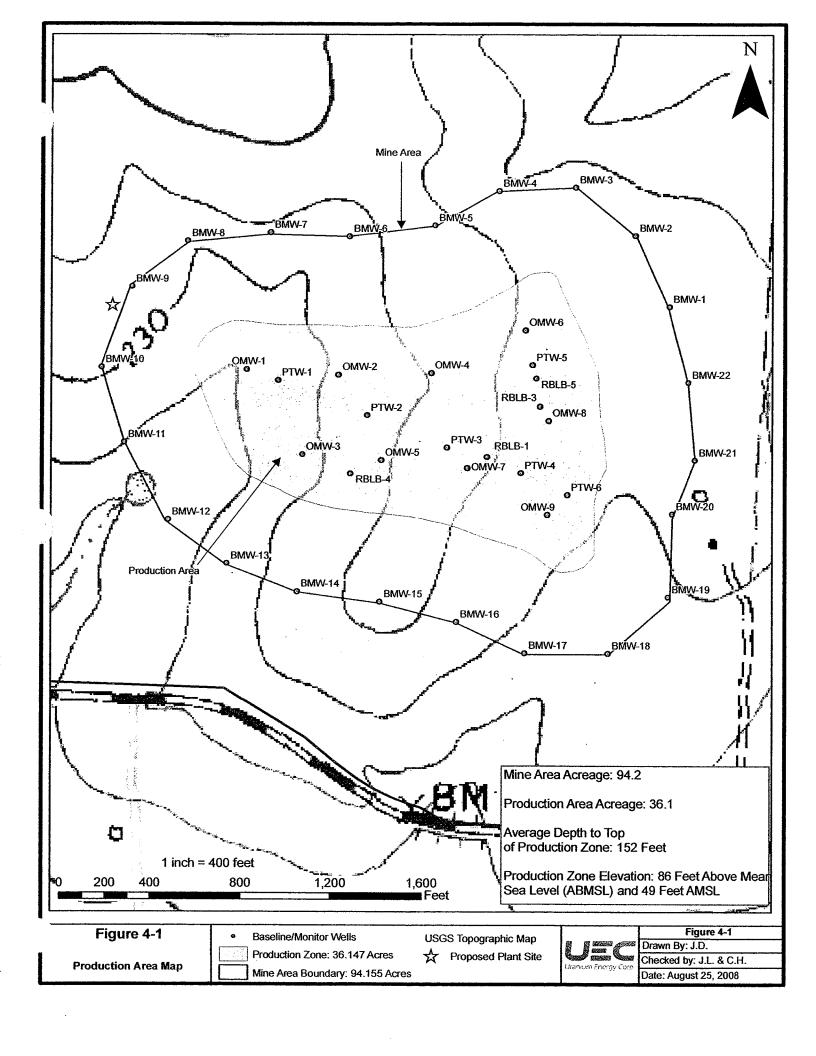
4.1.1 Test Area

The PA-1 test area is shown in Figure 4-1. Figure 4-1 also shows the location of the various wells used in the test.

The pumping test wells (PTW) are completed in the Sand B which is the ore zone. This was the primary sand tested. The baseline monitoring wells (BMW) are the production zone baseline wells discussed above and are also completed in sand B. Overlying monitoring wells (OMW) are completed in Sand A which is located above Sand B and isolated from it by a confining clay/shale layer. The objective of monitoring Sand A was to confirm the presence of an effective geologic barrier to flow between the ore zone and any overlying aquifers. Regional baseline wells (RBL) are designated for each sand. Therefore, there are RBLA (Sand A) wells, RBLB (Sand B) wells, etc.

4.1.2 Overview of the PA-1 Pumping Tests

Background water levels and barometric pressure were monitored from 17:00 hours on 7/8/2008 to 11:05 hours on 7/9/2008. Following this, two separate constant rate drawdown and recovery tests were performed at the PAA-1 location. A constant rate test stresses the aquifer through time and gives a good indication of how the aquifer will respond to long term pumping.



The first test used PTW-6 as the pumping well. The pumping test began on 7/9/2008 at 11:05 hours and ended on 7/10/2008 at 20:28 hours for a total duration of 33.4 hours. The recovery was then monitored until 15:26 hours on 7/11/2008 for a duration of 18.96 hours. During the drawdown and recovery tests, barometric pressure was monitored and water level drawdown and recovery were monitored in various wells as discussed below.

The equipment was then moved and PTW-1 was used as the pumping well. The PTW-1 pumping test began on 7/12/2008 at 10:34 hours and ended on 7/13/2008 at 20:02 hours for a total duration of 33.43 hours. The recovery was then monitored until 8:36 hours on 7/15/2008 for duration of 36.56 hours. During the drawdown and recovery tests, barometric pressure was monitored and water level drawdown and recovery were monitored in several wells as discussed below.

4.1.3 <u>Data Acquisition and Equipment</u>

Water level drawdown and recovery were recorded digitally and the data were downloaded to laptop computers for storage and analysis. In observation wells close to the pumping wells, water levels were recorded more frequently at the beginning of a drawdown or recovery phase. The sampling time increment was increased as the test progressed. This is because most of the water level change occurs early in the test. In the early parts of the test, water levels were recorded every 0.0273 minutes (1.64 seconds). After 5 minutes, water levels were recorded every 20 seconds. After 30 minutes, water levels were recorded every 2 minutes until the end of the test. Water levels in the baseline monitoring wells were recorded every 5 minutes because they were located farther away from the pumping well.

For the PTW-6 test, water levels in monitoring wells BMW-1 to BMW22, PTW-5, and OMW-8 and OMW-9 were monitored using In-Situ Inc. Troll units. In addition, an In-Situ Inc. Hermit unit was used to monitor the barometric pressure and the water levels in PTW-6, PTW-3, PTW-4, and RBLB-3.

Periodic manual water level measurements were made throughout the test with e-line measuring devices. These measurements were made to supplement the data and to verify that the transducers were performing adequately. In the PTW-6 test, water levels were measured manually in OMW-6 to OMW-9 and PTW-3 to 6. Manual measurements were also obtained in RBLB-1, RBLB-3, RBLB-5, and BMW-1 to 22. These manual readings were taken for quality assurance purposes to confirm the data logger measurements.

For the PTW-1 test, water levels were monitored in the following wells using In-Situ Inc. Troll units: BMW-1 to BMW22, PTW-3, RBLC-4, and OMW-2. An In-Situ Inc. Hermit unit was used to monitor the barometric pressure and the water levels in PTW-1, PTW-2, OMW-1, and RBLB-4. In the PTW-1 test, water levels were measured manually in OMW-1 to OMW-9 and wells PTW-1 to 3. Manual measurements were also obtained in RBLB-4, RBLC-3, RBLC-4, and BMW1 to 22. As in the first test, these manual readings were taken for quality assurance.

4.1.4 Pumping Equipment

For both pumping tests, a 4 inch diameter 5 horsepower pump was used. The pump was set just above the screen interval in each well. The pump was capable of pumping approximately 40 gallons per minute (gpm) at the installed depth for each test.

4.1.5 Well completions

Sand A and is in the depth range of approximately 50 to 120 feet below ground level and the OMW wells are completed within this interval. This is the only overlying sand above the production zone. Sand B wells are in the production zone. They are deeper, with typical completions in the 160 to 200 feet depth range. These wells include the pumping test wells and the production zone baseline monitoring wells.

A typical well in Sand A and B has a 9.875 inch reamed hole diameter with 5 inch inner diameter (ID) cemented casing. The completion consists of a 3 inch ID liner hung off the bottom of the casing with a section of screen. The upper part of the liner consists of a small section (approximately 2 to 7 feet) of steel blank pipe followed by a 20 feet section of 0.010 feet slotted screen.

4.2 Test Results

4.2.1 Barometric Pressure Measurements

Barometric pressure was measured during the entire PA-1 field test including both the PTW-6 and PTW-1 tests and a background measurement period prior to the PTW-6 test. Figure 4-2 shows the barometric pressure in pounds per square inch (psi) during the test. The barometric pressure was measured using an In-Situ Inc. barometer that was linked to the Hermit recording device.

From the data, the normal diurnal fluctuation in barometric pressure can be seen. Although there was a slight increase in barometric pressure early in PTW-6 test, the atmospheric pressure remained relatively constant thereafter. A weak low pressure system moved into the area just after the start of the PTW-1 pumping phase.

4.2.2 <u>Background Water Level Measurements</u>

PTW-6 Test Background Water Level Measurements

Prior to the start of the first test at PTW-6, background water levels were recorded at 5 minute intervals starting on 7/8/2008 at 17:00 hours and ending at 7/9/2008 at 11:05 hours. Background water levels were recorded in BMW wells 1 through 22, in PTW-5, and overlying Sand A monitoring wells OMW-8 and OMW-9. The change in the water level relative to the initial measurement is shown in Figure 4-3.

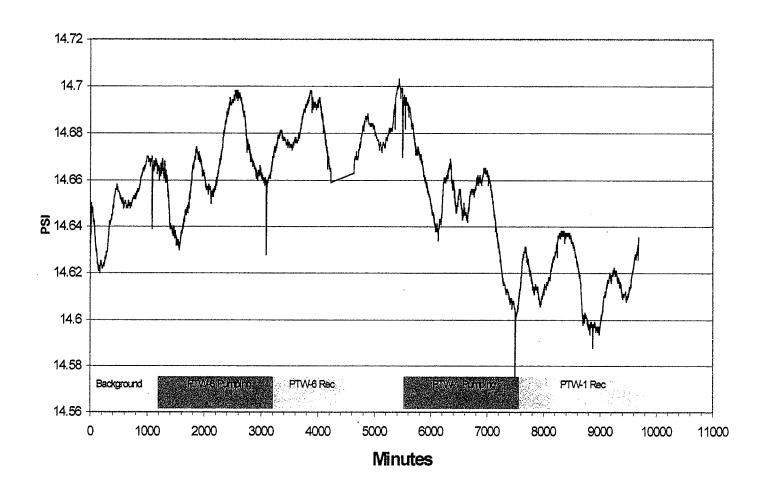


Figure 4.2 Barometric pressure during the PAA-1 pumping tests.

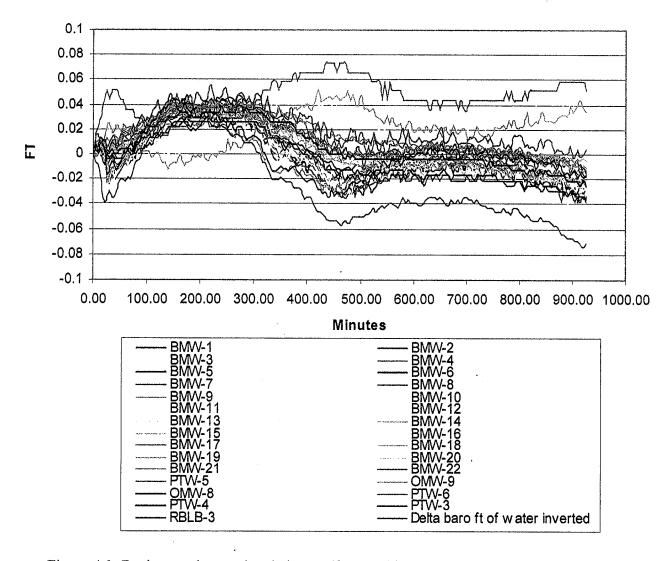


Figure 4.3. Background water level change (feet) and inverted barometric pressure change (converted to feet of water) monitored from 17:00 hours on 7/8/2008 to 11:05 hours on 7/9/2008.

From this figure, it can be concluded that there was a small but definite trend of water level decline in all but two of the wells over the 18 hour monitoring period. There was a small rise in water levels in BMW-3 and BMW-19. The maximum change in water levels was approximately 0.05 feet (0.6 inches) with most values in the 0.02 feet (0.24 inch) range. This small amount of change is considered to be negligible and to have an insignificant effect on the interpretation of the test results. The background water level changes are attributed to small changes in barometric pressure as discussed below.

PTW-1 Test Background Water Level Measurements

Background water levels were also obtained prior to the PTW-1 pumping and recovery tests. This information was not used in the analysis that follows because water levels were perturbed due to the prior PTW-6 test and therefore, they may not be representative of true background conditions in the Sand B aquifer.

4.2.3 Barometric Efficiency of the Sand B Aquifer

Figure 4-3 also shows the inverted change in barometric pressure from the start of measurement as recorded prior to the PTW-6 test. The delta barometric pressure data were inverted and converted to feet of water for ease of comparison. The pressure data were inverted because of the opposite relationship that exists between water levels and barometric pressure in a confined aquifer. As the barometric pressure increases, water levels decline (and vice versa) in a well completed in a confined aquifer. The water level changes generally follow the pattern of the change in barometric pressure with no or only a very small time lag. There is not a one to one correspondence, however.

The barometric efficiency, BE, is the ratio of the water level change and the change in barometric pressure (Todd, 1980; Freeze and Cherry, 1979; Domenico and Schwartz, 1990):

BE =
$$\Delta h (0.4335 \text{ psi/ft}) / \Delta Patm$$

Where:

 Δh = change in water level (feet) ΔP atm = change in atmospheric pressure (psi) BE = barometric efficiency (fraction) 0.4335 psi/ft = conversion factor

The barometric efficiency for Sand B was determined as follows. The background data in Figure 4-3 were analyzed and it was determined that the water levels in RBLB-3 were representative of the average water level change. The water level changes in RBLB-3 were plotted along with the inverted barometric pressure change (converted to water). A multiplicative factor representing the barometric efficiency was applied to the barometric data until a good match was obtained to the amplitude of the water level change in RBLB-3 (Figure 4-4). This methodology is commonly used as documented by Todd (1980) and Domenico and Schwartz (1990).

The barometric efficiency of the Sand B aquifer was determined to be 0.60. This means that 60% of the change in barometric pressure is recorded in the Sand B aquifer as an opposite water level response.

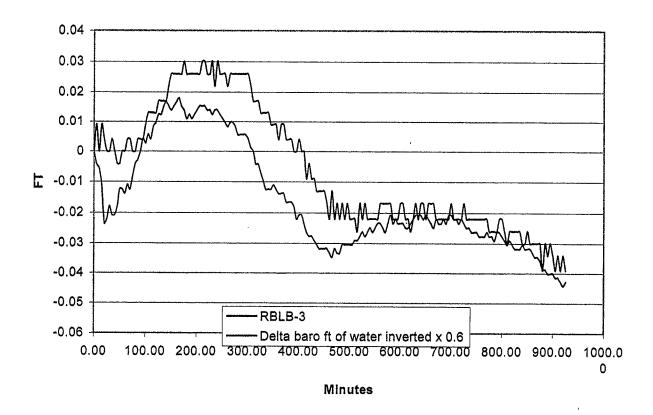


Figure 4.4 Determination of the barometric efficiency (BE) of the B sand aquifer using background water level change in well RBLB-3. The barometric pressure was inverted, converted to feet of water, and them multiplied by 0.6. The result shown here demonstrates that the amplitudes of the peaks are approximately equal when the BE is 0.60.

PTW-6 Test Barometric Pressure Corrections

Figure 4-5 shows the trend of the barometric pressure during the PTW-6 drawdown and recovery tests. A linear regression is provided with the line fit shown on the figure:

$$y = 1.0E-5x + 14.653 psi$$

where y = barometric pressure, and x = elapsed time in minutes.

The overall trend shows a slight increase in barometric pressure over the time of the test. The increase is very small as evidenced by the slope of the line, 1.0E-5. During the course of the test, the atmospheric pressure increase would cause a small increase in the water level drawdown and a small decrease in the water levels during recovery.

Using the BE of 0.6 derived above, this average trend was applied to the data. Over the course of the test, the corrected drawdown for a time x would be,

Corrected drawdown = drawdown + (BE) [(Patm initial -y) / 0.4335 psi/ft]

The required corrections were found to be approximately 0.03 feet of water or less for the drawdown and recovery phases. This represents a maximum of 5 percent (and in most cases much less) of the measured water level change for the test. Therefore, no water level correction for barometric pressure changes was necessary for the PTW-6 test.

Barometric pressure during the PTW-6 drawdown and recovery tests

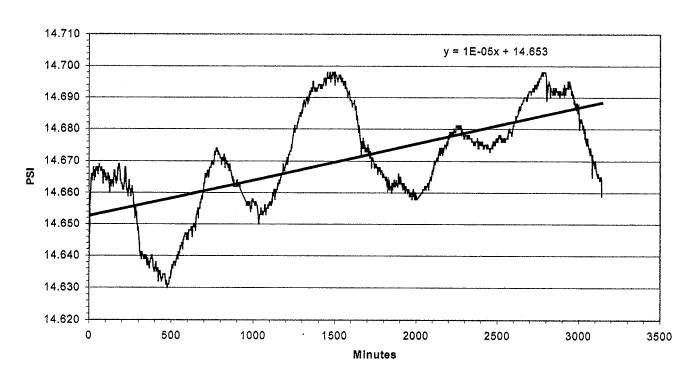


Figure 4.5. Barometric pressure trend during the PTW-6 pumping test.

PTW-1 Test Barometric Pressure Corrections

Figure 4-6 shows the trend of the barometric pressure during the PTW-1 drawdown and recovery tests. A linear regression is provided with the line fit shown on the figure:

$$y = -2.0E-5x + 14.67 psi$$

where y = barometric pressure, and x = elapsed time in minutes.

The overall trend shows a decrease in barometric pressure over the time of the test. The increase is rather small as evidenced by the slope of the line, -2.0E-5. However, during the course of the test, the atmospheric pressure decrease would cause a decrease in the water level drawdown and an increase in the water levels during recovery.

Using the BE of 0.6 derived above, this average trend was applied to the data. Over the course of the test, the corrected drawdown for a time x would be,

Corrected drawdown = drawdown + (BE) [(Patm initial -y) / 0.4335 psi/ft]

The required corrections were found to be approximately 0.06 to 0.10 feet of water for the drawdown and recovery phases. This represents a significant change (as much as approximately 20 percent) that required correction of the measured water levels during the test. The corrected drawdown and recovery data were then analyzed for aquifer properties.

Barometric pressure (psi) during the PTW-1 drawdown and recovery test

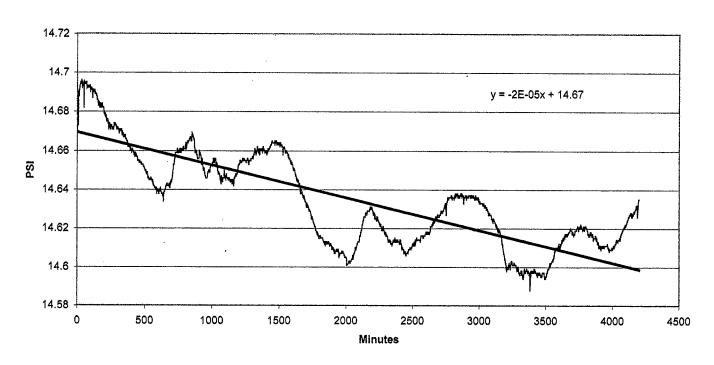


Figure 4.6. Barometric pressure trend during the PTW-6 pumping test.

4.2.4 Pumping Rate

For the PTW-6 test, the rate was monitored frequently throughout the test to make sure that a constant rate was maintained. The average rate was relatively constant at 37.8 gpm. The total volume pumped was 75,821 gallons over the 33.4 hour pumping period.

For the PTW-1 test, the rate was monitored at frequent intervals, and the average rate was relatively constant at 36.7 gpm. The pumping duration was 33.43 hours. The total amount of water pumped was 73,562 gallons.

4.2.5 <u>Water Level Changes Resulting from Pumpage</u>

Water Level Changes in the PTW-6 Test

Starting with the pre-test background period and ending with the recovery after the PTW-6 test, water levels were monitored and recorded continuously in digital form in all of the BMW wells using Level Troll data loggers. Levels in PTW-5, OMW-8, and OMW-9 were also recorded with Troll units. Water levels in PTW-6, PTW-4, PTW-3, and RBLB-3 were recorded digitally with the Hermit device.

The water level changes recorded with the Troll data loggers during the PTW-6 test are shown in Figure 4-7. Figure 4-8 shows the water level response in the pumping well and three nearby observation wells. Note that the vertical scale is logarithmic in Figure 4-8. Water levels were recorded more frequently at the beginning of the drawdown and the recovery portions and the sampling time increment was increased as the test progressed (see Section 4.1.3). As discussed in Section 4.1.3, manual water levels were also recorded primarily for quality assurance purposes. The actual analyses were performed on the continuously recorded digital data.

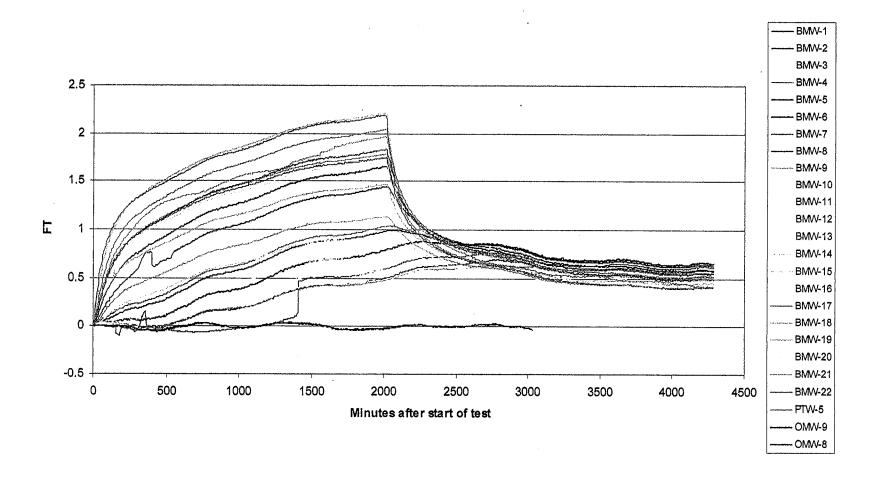


Figure 4.7. Water level drawdown and recovery in observation wells for the PTW-6 test.

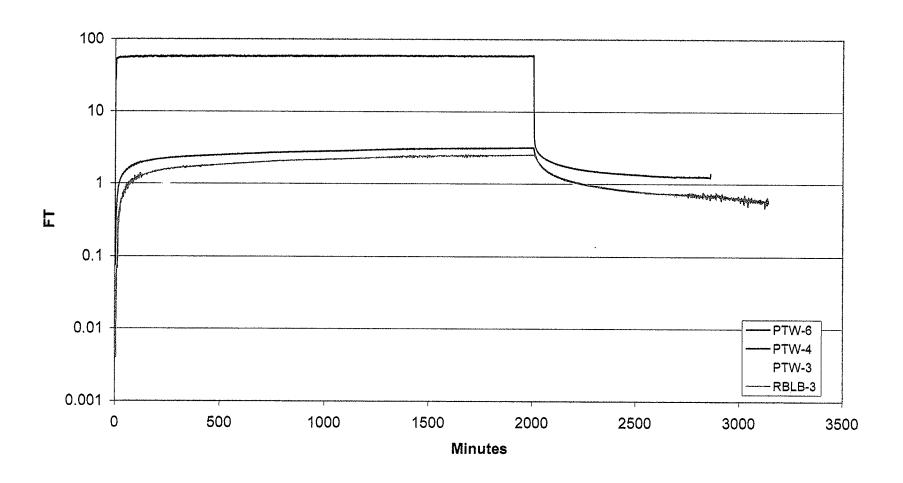


Figure 4.8. Water level drawdown and recovery from the Hermit data logger for the PTW-6 test.

From Figures 4-7 and 4-8, it can be seen that at least 0.6 feet of drawdown was recorded in all of the observation wells with drawdown as high as 2.2 feet in some of the wells. This amount of drawdown is considerably more than the amount of water level change that can be attributed to barometric pressure changes (Section 4.2.3). Note that the vertical scale is logarithmic in Figure 4.8.

The PTW-6 test digital logger data are given in Tables 4.1 and 4.2. The manual measurements are given in Table 4.3. These tables can be found in Appendix D.

Water Level Changes in the PTW-1 Test

Starting with the pumping in PTW-1, water levels were monitored continuously in all of the BMW wells using Level Troll data loggers. Water levels were measured in all of the OMW wells during this phase of the PA-1 testing. OMW 1 to 9 measurements were made manually. OMW-2 measurements were obtained with the level troll transducer for the pre pumping test portion. OMW-1 water levels were recorded with the Hermit device. The water level changes during the PTW-1 test are shown in Figure 4-9 for the Troll data and Figure 4-10 for the Hermit data.

From Figures 4-9 and 4-10, it can be seen that at least 0.85 feet of drawdown was recorded in all of the observation wells with drawdown as high as approximately 1.85 feet in some of the wells. This amount of drawdown is considerably more than the amount of water level change that can be attributed to barometric pressure changes (Section 4.2.3).

The PTW-1 test digital logger data are given in Tables 4.4 and 4.5. The manual measurements are given in Table 4.6. These tables can be found in Appendix D.

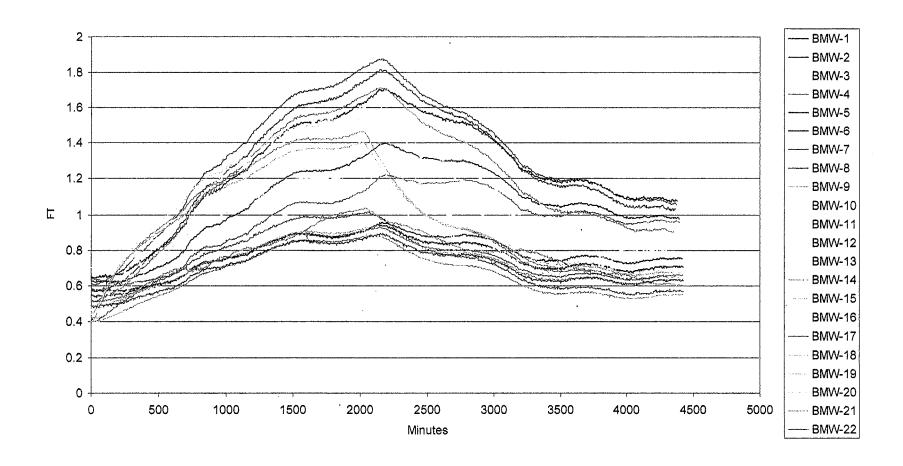


Figure 4.9. Water level drawdown and recovery from the Troll data loggers for the PTW-1 test.

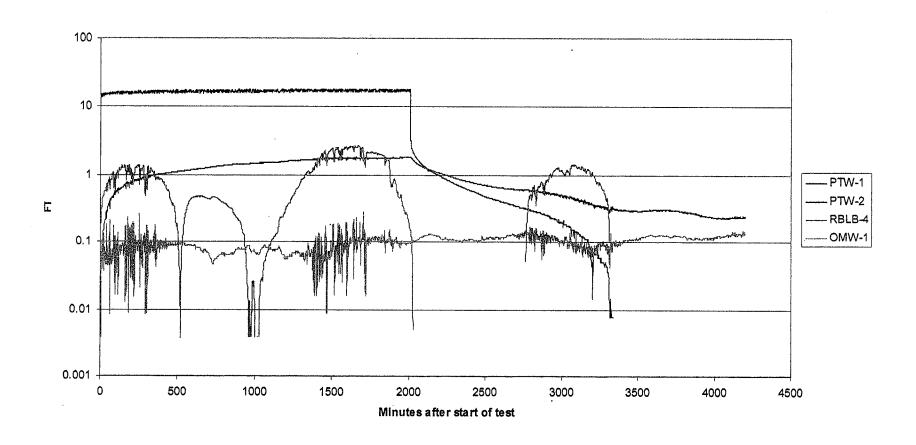


Figure 4.10. Water level drawdown and recovery from the Hermit data logger for the PTW-1 test.

4.2.6 <u>Hydraulic Communication between Pumped Wells and Observation Wells</u>

The drawdown response to pumping is a measure of the amount of hydraulic communication between wells. Excellent communication between the pumped wells and the observations wells in the baseline monitoring well ring was observed in both tests. This means that the production zone baseline monitoring wells will communicate effectively with the PA-1 production area and therefore serve their intended function as monitor wells to protect water quality.

As discussed in the previous sections, the water level response to pumping was significantly greater than what could be attributed to barometric pressure changes. Also, as discussed below, the drawdown response in the monitoring ring wells was analyzable for aquifer parameters. This provides evidence that the observation well response to pumping is not simply the result of background fluctuations that could be caused by long term or seasonal water level fluctuations due to natural recharge or discharge. Furthermore, the water level changes are clearly induced by the pumpage at PTW-1 and PTW-6.

4.2.7 <u>Hydrologic Communication between Aquifers</u>

The pumping tests in PTW-1 and PTW-6 demonstrate that there is no communication between the overlying Sand A aquifer and B sand aquifers. This is based on the water level response in the OMW series wells. Sand A is in the depth range of approximately 50 to 120 feet below ground level and the OMW wells are completed within this interval. Sand B wells are deeper, with typical completions in the 160 to 200 feet depth range.

In Figure 4-7, there is no discernable response in OMW-8 and OMW-9 to the pumping in PTW-6. The trace of the responses in OMW-8 and OMW-9 are superposed and fluctuate slightly around the 0 water level point. The response in the other wells to the pumpage is quite clear in Figure 4-7. Figure 4-10 shows that there was a very slight increase in water levels in OMW-1 during the PTW-1 test. If there were hydraulic communication between the pumped Sand B and Sand A, there would be an obvious decline in the water level of OMW-1.

Manual water level measurements in the OMW wells given in Tables 4.3 and 4.6 have a similar pattern. There is no detectable response in the overlying Sand A to the Sand B pumpage in either the PTW-1 or the PTW-6 test.

4.2.8 <u>Transmissivity and Storativity Calculations</u>

The well tests were analyzed using Aqtesolv for Windows, Version 4.50 Professional (Duffield, 2007). This commercial program has been successfully and widely used for well test analysis since 1996.

The well test analyses are given in Appendix D for the PTW-6 and the PTW-1 tests. Each pumping and observation well is analyzed separately and there may be multiple analyses for a given well. A graph of the data with the line fit is given for each analysis. There are two phases for each test: water level drawdown during pumping, and water level recovery after the pumping well is shut-in. The goal of the analysis is to determine the transmissivity and storativity of the aquifer at each well location.

Well Test Analysis Methodology

The PTW-6 and PTW-1 tests were analyzed using standard hydrologic methods. Three different standard methods were used to analyze the PTW-6 drawdown tests: Theis, Cooper-Jacob, and Dougherty Babu (PTW-6 only). Antother standard method, the Theis recovery method, was used to analyze the recovery portion of the PTW-6 test.

Prior to the PTW-1 test analysis, the data were corrected for barometric pressure effects. Then, the Theis method with superposition was used to analyze the PTW-1 test drawdown and recovery results. This is because there was prior pumping in PTW-6. This prior pumping was incorporated into the analysis.

Well Test Analysis Results

The data were analyzable using the standard techniques described above. The expected Theis response was clearly displayed in the data. This means that the tests were properly conducted and that results can be used to characterize the Sand B aquifer.

The results are summarized in Table 4.7. The results between the two tests are similar. The transmissivity appears to be somewhat higher in the region near BMW-12 to BMW-22. The storativity is relatively constant. The analysis show that the transmissivity range is from approximately 377 to 1521 ft²/day. The storativity ranges from approximately 0.00001 to 0.001. The storativity was anomalously low in PTW-6 from the first test. This may be an artifact of perturbations in the data from the pumping well.

4.3 Hydrologic Boundaries and Recharge Areas

4.3.1 <u>Hydrologic Boundaries</u>

The recovery data from the PTW-1 pumping well may indicate the presence of a no flow boundary or an area of reduced transmissivity. As shown in Figure 4-11, there is a noticeable increase in the slope of the recovery data starting about 30 minutes after pumping stopped.

Table 4.7 Summary of Well Test Analysis Results

Pumped	Obs. Well	Solution Method	Transmissivity	Storativity
Well			(ft2/day)	
PTW-6	BMW-1	Theis	1053.4	0.0001669
	BMW-1	Cooper-Jacob	1053.4	0.0001669
	BMW-1	Theis Recovery	1053.5	
PTW-6	BMW-2	Theis	882	0.000217
	BMW-2	Cooper-Jacob	882	0.000217
	BMW-2	Theis Recovery	891.8	
PTW-6	BMW-3	Theis	722.3	0.0002573
	BMW-3	Cooper-Jacob	729.6	0.0002101
	BMW-3	Theis Recovery	727.7	
PTW-6	BMW-4	Theis	777.1	0.0003618
	BMW-4	Cooper-Jacob	783.3	0.0003063
	BMW-4	Theis Recovery	779.4	
PTW-6	BMW-5	Theis	736.5	0.0003668
	BMW-5	Cooper-Jacob	736.5	0.0003668
	BMW-5	Theis Recovery	740.9	
PTW-6	BMW-6	Theis	513.4	0.0005047
	BMW-6	Cooper-Jacob	520.8	0.0003645
	BMW-6	Theis Recovery	520.8	
PTW-6	BMW-7	Theis	376.7	0.0005214
	BMW-7	Cooper-Jacob	403.5	0.0002696
	BMW-7	Theis Recovery	416.4	
PTW-6	BMW-8	Theis	472.6	0.0004203
	BMW-8	Cooper-Jacob	476.5	0.000225
	BMW-8	Theis Recovery	476.5	
PTW-6	BMW-9	Theis	554	0.000399
	BMW-9	Cooper-Jacob	572	0.0002623
******	BMW-9	Theis Recovery	572	
PTW-6	BMW-10	Theis	673.4	0.0003995
	BMW-10	Cooper-Jacob	668.9	0.0002494
577141.0	BMW-10	Theis Recovery	659.2	
PTW-6	BMW-11	Theis	780.4	0.000382
	BMW-11	Cooper-Jacob	791.3	0.0002761
07744.0	BMW-11	Theis Recovery	791.3	
PTW-6	BMW-12	Theis	1194.2	0.0002472
	BMW-12	Cooper-Jacob	1194.2	0.0002472
D714.6	BMW-12	Theis Recovery	1194.2	
PTW-6	BMW-13	Theis	1126.3	0.0002531
	BMW-13	Cooper-Jacob	1126.3	0.0002531
	BMW-13	Theis Recovery	1175.3	
PTW-6	BMW-14	Theis	1206.6	0.0002315
	BMW-14	Cooper-Jacob	1206.6	0.0002315
Page 4.4 =	BMW-14	Theis Recovery	1206.6	
PTW-6	BMW-15	Theis	1196.7	0.0001925
	BMW-15	Cooper-Jacob	1020.6	0.000248
	BMW-15	Theis Recovery	1626.9	
PTW-6	BMW-16	Theis	1215.6	0.0001837
	BMW-16	Cooper-Jacob	1215.6	0.0001837
	BMW-16	Theis Recovery	1216	

(cont.) Table 4.7 Summary of Well Test Analysis Results

Pumped	Obs. Well	Solution Method	Transmissivity	Storativity
Well	Obs. Wen	Solution Method	(ft2/day)	Storauvity
PTW-6	BMW-17	Theis	1240.6	0.0001714
11110	BMW-17	Cooper-Jacob	1240.6	0.0001714
	BMW-17	Theis Recovery	1239.9	0.0001714
PTW-6	BMW-18	Theis	1207.4	0.0001767
1111-0	BMW-18	Cooper-Jacob	1207.4	0.0001767
	BMW-18	Theis Recovery	1207.4	0.0001101
PTW-6	BMW-19	Theis	1112.9	0.0002194
1 1 1 1 1 -0	BMW-19	Cooper-Jacob	1112.9	0.0002194
	BMW-19	Theis Recovery	1112.9	0.0002.104
PTW-6	BMW-20	Theis	1097.4	0.000226
1 1 1 1 1 1	BMW-20	Cooper-Jacob	1097.4	0.000226
	BMW-20	Theis Recovery	1097.4	0.000220
PTW-6	BMW-21	Theis	1049.5	0.0002197
1 1 1 1 1 2	BMW-21	Cooper-Jacob	1049.5	0.0002197
	BMW-21	Theis Recovery	1049.5	0.0002131
PTW-6	BMW-22	Theis Recovery	1063.5	0.0002103
F1VV-0	BMW-22	Cooper-Jacob	1063.5	0.0002103
	BMW-22	Theis Recovery	1063.5	0.0002103
PTW-6	PTW-5	Theis Recovery Theis	1175.7	0.0001213
PIVV-0	PTW-5	Cooper-Jacob		
		•	1175.7	0.0001213
DTM	PTW-5 PTW-3	Theis Recovery	1175.7	0.0004004
PTW-6	PTW-3	Theis	1255.2	0.0001961
	PTW-3	Cooper-Jacob	1255.2	0.0001961
DTMC		Theis Recovery	1255.2	0.005.05
PTW-6	PTW-4	Dougherty-Babu	1228	9.08E-05
	DTM 4	Caaman laaah	4000	0.000.00
	PTW-4	Cooper-Jacob	1228	9.08E-05
DTM 6	PTW-4	Theis Recovery	1228	
PTW-6	PTW-4 PTW-6	Theis Recovery Dougherty-Babu	1228 465.9	3.40E-09
PTW-6 PTW-6	PTW-4 PTW-6 RBLB-3	Theis Recovery Dougherty-Babu Theis	1228 465.9 1197	3.40E-09 1.24E-04
	PTW-4 PTW-6 RBLB-3 RBLB-3	Theis Recovery Dougherty-Babu Theis Cooper-Jacob	1228 465.9 1197 1197	3.40E-09
	PTW-4 PTW-6 RBLB-3	Theis Recovery Dougherty-Babu Theis	1228 465.9 1197	3.40E-09 1.24E-04
PTW-6	PTW-4 PTW-6 RBLB-3 RBLB-3 RBLB-3	Theis Recovery Dougherty-Babu Theis Cooper-Jacob Theis Recovery	1228 465.9 1197 1197 1197	3.40E-09 1.24E-04 1.24E-04
PTW-6	PTW-4 PTW-6 RBLB-3 RBLB-3 RBLB-3	Theis Recovery Dougherty-Babu Theis Cooper-Jacob Theis Recovery Theis	1228 465.9 1197 1197 1197	3.40E-09 1.24E-04 1.24E-04 0.0004195
PTW-6 PTW-1 PTW-1	PTW-4 PTW-6 RBLB-3 RBLB-3 RBLB-3 BMW-1 BMW-2	Theis Recovery Dougherty-Babu Theis Cooper-Jacob Theis Recovery Theis Theis	1228 465.9 1197 1197 1197 871.4 626.5	3.40E-09 1.24E-04 1.24E-04 0.0004195 0:0005141
PTW-6 PTW-1 PTW-1 PTW-1	PTW-4 PTW-6 RBLB-3 RBLB-3 RBLB-3 BMW-1 BMW-2 BMW-3	Theis Recovery Dougherty-Babu Theis Cooper-Jacob Theis Recovery Theis Theis Theis Theis	1228 465.9 1197 1197 1197 871.4 626.5 494.7	3.40E-09 1.24E-04 1.24E-04 0.0004195 0:0005141 0.0005108
PTW-6 PTW-1 PTW-1 PTW-1 PTW-1	PTW-4 PTW-6 RBLB-3 RBLB-3 RBLB-3 BMW-1 BMW-2 BMW-3 BMW-4	Theis Recovery Dougherty-Babu Theis Cooper-Jacob Theis Recovery Theis Theis Theis Theis Theis Theis	1228 465.9 1197 1197 1197 871.4 626.5 494.7 451	3.40E-09 1.24E-04 1.24E-04 0.0004195 0:0005141 0.0005108 0.0007146
PTW-6 PTW-1 PTW-1 PTW-1 PTW-1 PTW-1	PTW-4 PTW-6 RBLB-3 RBLB-3 RBLB-3 BMW-1 BMW-2 BMW-3 BMW-4 BMW-5	Theis Recovery Dougherty-Babu Theis Cooper-Jacob Theis Recovery Theis Theis Theis Theis Theis Theis Theis	1228 465.9 1197 1197 1197 871.4 626.5 494.7 451 466.6	3.40E-09 1.24E-04 1.24E-04 0.0004195 0:0005141 0.0005108 0.0007146 0.0009361
PTW-6 PTW-1 PTW-1 PTW-1 PTW-1 PTW-1 PTW-1	PTW-4 PTW-6 RBLB-3 RBLB-3 RBLB-3 BMW-1 BMW-2 BMW-3 BMW-4 BMW-5 BMW-6	Theis Recovery Dougherty-Babu Theis Cooper-Jacob Theis Recovery Theis Theis Theis Theis Theis Theis Theis Theis Theis	1228 465.9 1197 1197 1197 871.4 626.5 494.7 451 466.6 433.8	3.40E-09 1.24E-04 1.24E-04 0.0004195 0.0005141 0.0005108 0.0007146 0.0009361 0.001177
PTW-6 PTW-1 PTW-1 PTW-1 PTW-1 PTW-1 PTW-1 PTW-1	PTW-4 PTW-6 RBLB-3 RBLB-3 RBLB-3 BMW-1 BMW-2 BMW-3 BMW-4 BMW-5 BMW-6 BMW-7	Theis Recovery Dougherty-Babu Theis Cooper-Jacob Theis Recovery Theis	1228 465.9 1197 1197 1197 871.4 626.5 494.7 451 466.6 433.8 433.8	3.40E-09 1.24E-04 1.24E-04 0.0004195 0.0005141 0.0005108 0.0007146 0.0009361 0.001177 0.001177
PTW-6 PTW-1 PTW-1 PTW-1 PTW-1 PTW-1 PTW-1 PTW-1 PTW-1	PTW-4 PTW-6 RBLB-3 RBLB-3 RBLB-3 BMW-1 BMW-2 BMW-3 BMW-4 BMW-5 BMW-6 BMW-7 BMW-8	Theis Recovery Dougherty-Babu Theis Cooper-Jacob Theis Recovery Theis	1228 465.9 1197 1197 1197 871.4 626.5 494.7 451 466.6 433.8 433.8 449	3.40E-09 1.24E-04 1.24E-04 0.0004195 0.0005141 0.0005108 0.0007146 0.0009361 0.001177 0.001177
PTW-6 PTW-1 PTW-1 PTW-1 PTW-1 PTW-1 PTW-1 PTW-1 PTW-1 PTW-1	PTW-4 PTW-6 RBLB-3 RBLB-3 RBLB-3 BMW-1 BMW-2 BMW-3 BMW-4 BMW-5 BMW-6 BMW-7 BMW-8 BMW-9	Theis Recovery Dougherty-Babu Theis Cooper-Jacob Theis Recovery Theis	1228 465.9 1197 1197 1197 871.4 626.5 494.7 451 466.6 433.8 433.8 449 515.4	3.40E-09 1.24E-04 1.24E-04 1.24E-04 0.0004195 0.0005141 0.0005108 0.0007146 0.0009361 0.001177 0.001177 0.0009529 0.0008619
PTW-6 PTW-1	PTW-4 PTW-6 RBLB-3 RBLB-3 RBLB-3 BMW-1 BMW-2 BMW-3 BMW-4 BMW-5 BMW-5 BMW-6 BMW-7 BMW-8 BMW-9 BMW-10	Theis Recovery Dougherty-Babu Theis Cooper-Jacob Theis Recovery Theis	1228 465.9 1197 1197 1197 871.4 626.5 494.7 451 466.6 433.8 433.8 433.8 449 515.4 587.1	3.40E-09 1.24E-04 1.24E-04 1.24E-04 0.0004195 0.0005141 0.0005108 0.0007146 0.0009361 0.001177 0.001177 0.0009529 0.0008619 0.0009388
PTW-6 PTW-1	PTW-4 PTW-6 RBLB-3 RBLB-3 RBLB-3 BMW-1 BMW-2 BMW-3 BMW-4 BMW-5 BMW-6 BMW-7 BMW-8 BMW-9 BMW-10 BMW-11	Theis Recovery Dougherty-Babu Theis Cooper-Jacob Theis Recovery Theis	1228 465.9 1197 1197 1197 871.4 626.5 494.7 451 466.6 433.8 433.8 433.8 433.8 515.4 587.1 657.4	3.40E-09 1.24E-04 1.24E-04 1.24E-04 0.0004195 0.0005141 0.0005108 0.0007146 0.0009361 0.001177 0.001177 0.0009529 0.0008619 0.0009388 0.0008451
PTW-6 PTW-1	PTW-4 PTW-6 RBLB-3 RBLB-3 RBLB-3 RBLB-3 BMW-1 BMW-2 BMW-3 BMW-4 BMW-5 BMW-6 BMW-7 BMW-8 BMW-9 BMW-10 BMW-11 BMW-12	Theis Recovery Dougherty-Babu Theis Cooper-Jacob Theis Recovery Theis	1228 465.9 1197 1197 1197 871.4 626.5 494.7 451 466.6 433.8 433.8 449 515.4 587.1 657.4 780.7	3.40E-09 1.24E-04 1.24E-04 1.24E-04 0.0004195 0.0005141 0.0005108 0.0007146 0.0009361 0.001177 0.001177 0.0009529 0.0008619 0.0009388 0.0008451 0.0006553
PTW-6 PTW-1	PTW-4 PTW-6 RBLB-3 RBLB-3 RBLB-3 RBLB-3 BMW-1 BMW-2 BMW-3 BMW-4 BMW-5 BMW-6 BMW-7 BMW-8 BMW-9 BMW-10 BMW-11 BMW-12 BMW-12 BMW-13	Theis Recovery Dougherty-Babu Theis Cooper-Jacob Theis Recovery Theis	1228 465.9 1197 1197 1197 871.4 626.5 494.7 451 466.6 433.8 433.8 449 515.4 587.1 657.4 780.7 876.8	3.40E-09 1.24E-04 1.24E-04 1.24E-04 0.0004195 0.0005141 0.0005108 0.0007146 0.0009361 0.001177 0.001177 0.0009529 0.0008619 0.0009388 0.0008451 0.0006553 0.0004959
PTW-6 PTW-1	PTW-4 PTW-6 RBLB-3 RBLB-3 RBLB-3 RBLB-3 BMW-1 BMW-2 BMW-3 BMW-4 BMW-5 BMW-6 BMW-7 BMW-8 BMW-9 BMW-10 BMW-11 BMW-11 BMW-12 BMW-13 BMW-13 BMW-14	Theis Recovery Dougherty-Babu Theis Cooper-Jacob Theis Recovery Theis	1228 465.9 1197 1197 1197 871.4 626.5 494.7 451 466.6 433.8 433.8 449 515.4 587.1 657.4 780.7 876.8 928.2	3.40E-09 1.24E-04 1.24E-04 1.24E-04 0.0004195 0.0005141 0.0005108 0.0007146 0.0009361 0.001177 0.0009529 0.0008619 0.0009388 0.0008451 0.0006553 0.0004959 0.0002818
PTW-6 PTW-1	PTW-4 PTW-6 RBLB-3 RBLB-3 RBLB-3 RBLB-3 BMW-1 BMW-2 BMW-3 BMW-4 BMW-5 BMW-6 BMW-7 BMW-8 BMW-9 BMW-10 BMW-11 BMW-11 BMW-12 BMW-13 BMW-14 BMW-13	Theis Recovery Dougherty-Babu Theis Cooper-Jacob Theis Recovery Theis	1228 465.9 1197 1197 1197 871.4 626.5 494.7 451 466.6 433.8 433.8 433.8 479 515.4 587.1 657.4 780.7 876.8 928.2 900.4	3.40E-09 1.24E-04 1.24E-04 1.24E-04 0.0004195 0.0005141 0.0005108 0.0007146 0.0009361 0.001177 0.001177 0.0009529 0.0008619 0.0009388 0.0008451 0.0006553 0.0004959 0.0002818 0.0003862
PTW-6 PTW-1	PTW-4 PTW-6 RBLB-3 RBLB-3 RBLB-3 RBLB-3 BMW-1 BMW-2 BMW-3 BMW-4 BMW-5 BMW-6 BMW-7 BMW-8 BMW-9 BMW-10 BMW-11 BMW-11 BMW-12 BMW-13 BMW-14 BMW-15 BMW-15 BMW-15	Theis Recovery Dougherty-Babu Theis Cooper-Jacob Theis Recovery Theis	1228 465.9 1197 1197 1197 871.4 626.5 494.7 451 466.6 433.8 433.8 433.8 449 515.4 587.1 657.4 780.7 876.8 928.2 900.4 921.8	3.40E-09 1.24E-04 1.24E-04 1.24E-04 0.0004195 0.0005141 0.0005108 0.0007146 0.0009361 0.001177 0.001177 0.0009529 0.0008619 0.0009388 0.0008451 0.0006553 0.0004959 0.0002818 0.0003862 0.0003425
PTW-6 PTW-1	PTW-4 PTW-6 RBLB-3 RBLB-3 RBLB-3 RBLB-3 BMW-1 BMW-2 BMW-3 BMW-4 BMW-5 BMW-6 BMW-7 BMW-8 BMW-9 BMW-10 BMW-11 BMW-11 BMW-12 BMW-13 BMW-14 BMW-13	Theis Recovery Dougherty-Babu Theis Cooper-Jacob Theis Recovery Theis	1228 465.9 1197 1197 1197 871.4 626.5 494.7 451 466.6 433.8 433.8 433.8 479 515.4 587.1 657.4 780.7 876.8 928.2 900.4	3.40E-09 1.24E-04 1.24E-04 1.24E-04 0.0004195 0.0005141 0.0005108 0.0007146 0.0009361 0.001177 0.001177 0.0009529 0.0008619 0.0009388 0.0008451 0.0006553 0.0004959 0.0002818 0.0003862

(cont.) Table 4.7 Summary of Well Test Analysis Results

Pumped	Obs. Well	Solution Method	Transmissivity	Storativity
Well			(ft2/day)	
PTW-1	BMW-19	Theis	784.8	0.0003064
PTW-1	BMW-20	Theis	851.5	0.0003619
PTW-1	BMW-21	Theis	796.4	0.0003743
PTW-1	BMW-22	Theis	824.7	0.0004284
PTW-1	PTW-2	Theis	1520.9	0.0004717
PTW-1	PTW-1	Cooper-Jacob	1100.5	9.23E-10

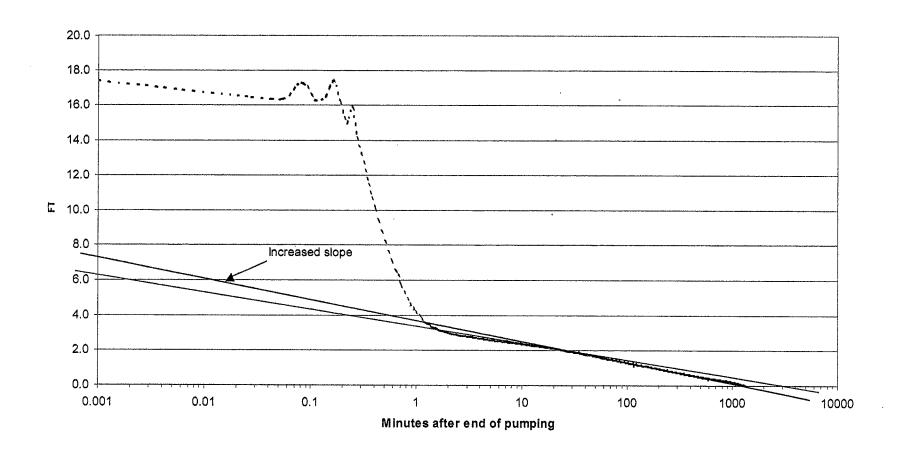


Figure 4.11. Data from the recovery test in PTW-1 shows an increase in the slope of the recovery after approximately thiry minutes. This may be an indication of a hydraulic boundary or a decrease in transmissivity.

4.3.2 Recharge Boundaries and Recharge Areas

No indications of recharge boundaries were found in the test data. Recharge areas for the A and B sands are located in outcropping areas to the west of the proposed mine. Recharge is by direct precipitation on the outcrop. No indication of any major regional recharge boundaries to the northwest where found in the pumping test data.

4.4 Summary of Conclusions

The first goal of the test was to confirm that there is hydraulic communication between the monitoring well ring and the wells within the production zone sand (Sand B). This was clearly achieved in both tests. This indicates that the production zone monitor wells will be able to detect fluid movement from where uranium recovery is occurring (the production zone). Measures will be taken to prevent such an occurrence. During recovery operations, a net drawdown or "bleed" will be maintained in the ore zone by producing (i.e., removing) approximately 1% more water than the amount being injected. This means that there will be a hydraulic barrier to prevent fluid from moving out of the production zone. As an added measure of safety, water quality in the monitor wells must be monitored throughout the recovery and restoration phases of the operation.

The second goal was to analyze the pumping test results. This was done to characterize the aquifer and obtain data on the aquifer's hydraulic characteristics such as transmissivity, storativity, and hydraulic conductivity. The data were of good quality and were analyzed using standard hydrologic techniques. The analysis show that the transmissivity range is from approximately 377 to 1521 ft²/day. The storativity ranges from approximately 0.00001 to 0.001. Finally, no communication was observed between Sand B and the overlying Sand A.

4.5 References

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Domenico, P. A. and F. W. Schwartz, 1990, Physical and Chemical Hydrogeology, John Wiley and Sons, New York, 824 p.

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5.0 Groundwater Quality

5.1 First Overlying Aquifer (Sand A)

Table 5.1 lists water quality values for nine monitor wells completed in Sand A which is the first overlying aquifer above the production zone (Sand B). There are no other aquifers above Sand A. In addition to showing individual water quality values for 26 constituents, Table 5.1 provides summary statistics on high, low and averages values, and where applicable, the standard deviation is given.

For South Texas, water quality in Sand A is relatively good; however, it does not meet EPA Drinking Water Standards. Table 5.1 shows that values for Total Dissolved Solids (TDS) and Arsenic (As) are in excess the standards; the average value for TDS 904 mg/l and the average concentration for As is 0.018 mg/l. EPA Drinking Water Standards for these constituents are 500 mg/l and 0.010 mg/l, respectively. When comparing the 904 mg/l average TDS value to Texas' 1000 mg/l Standard, it is apparent that water quality for this parameter is near the higher end of this standard.

Although the average value for a particular constituent is an important measure of water quality, the presence and frequency of high values must also be considered in the evaluation. Referring back to Table 5.1, for example, it can be seen that 33% (every third well) of the wells have TDS values that exceed the 1000 mg/l Texas Standard. Although on average the water quality is within the Texas Standard for TDS, it is not uncommon for a well to have values that exceed this standard. When a standard is more stringent, the frequency of occurances above the standard can be expected to increase, especially given the variability in groundwater. To illustrate, Table 5.1 shows that 100% of the wells have TDS values that are significantly higher than the EPA 500 mg/l level. Similarly, with the exception of one well (OMW-5), all of the wells have arsenic values in excess of the EPA Drinking Water Standard. Well OMW-5 has a value that is right at the 0.01 mg/l Drinking Water Standard and 33% of the wells have values that are at least twice the standard.

Examination of radium-226 values serves as another example of how a specific parameter can vary within a small portion of an aquifer. Radium-226 has a range from 0.5 pCi/l to 6.0 pCi/l – the high value is 12 times higher than the low value, and a Standard Deviation that is nearly 83% of the average.

Table 5.1 Overlying Aquifer (Sand A) Water Quality

	OMW-1	OMW-2	OMW-3	OMW-4	OMW-5	OMW-6	OMW-7
Ca	125	212	140	250	130	310	114
Mg	15.3	23.6	16.2	29.0	12.5	32.4	9.2
Na	105	120	91	118	95	133	83
K	2.6	2.1	1.9	2.3	1.8	2.6	1.8
CO3	0	0	0	0	0	0	0
HCO3	307	339	351	342	346	299	307
SO4	103	167	108	168	47	80	53
Cl	149	278	146	378	166	584	150
NO3-N	6.50	5.60	3.90	7.60	4.20	8.20	1.90
F	0.47	0.39	0.51	0.36	0.51	0.37	0.62
SIO2	16.1	18.7	18.4	21.4	18.8	20.3	17.6
TDS	673	1040	748	1180	663	1340	615
EC (umhos/cm)	1170	1690	1190	1940	1150	2450	1040
Alk as CaCO3	252	2.78	288	280	284	245	252
pH (Std. Unit)	7.35	7.21	7.31	7.23	7.30	6.98	7.39
As	0.021	0.018	0.013	0.019	0.010	0.026	0.014
Cd*	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001
Fe	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030
Pb*	0.002	< 0.002	< 0.002	< 0.002	0.003	< 0.002	< 0.002
Mn	0.007	0.003	< 0.003	0.008	< 0.003	0.011	0.006
Hg*	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Mo	0.024	< 0.010	< 0.010	< 0.010	< 0.010	0.013	< 0.010
Se	0.007	0.010	0.010	0.009	< 0.003	0.012	< 0.003
U	0.006	0.008	0.009	0.013	0.008	0.014	0.008
Ammonia-N*	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ra-226 (pCi/l)	0.5	0.9	0.8	6.0	3.6	2.0	0.8
Plus/Minus	0.1	0.1	0.1	0.2	0.2	0.1	0.1
All units are moll	inless other	wice noted	The same of the contract of th	 State of the state of the state of the second state. 	, and the contract to be the second section	1.4.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1	TELENOMERS PROFESSOR STORES

^{*}These elements do not occur naturally in the aquifer nor are they part of the process.

Table 5.1 Overlying Aquifer (Sand A) Water Quality

	OMW-8	OMW-9	High	Low	Average	Stdev	EPA Standard
Ca	170	208	310	114	184	62	NS
Mg	14.0	16.4	32.4	9.2	18.7	7.4	NS
Na	131	110	133	83	110	17	NS
K	2.3	2.1	2.6	1.8	2.2	0.3	NS
CO3	0	0	0	0	0	**	NS
HCO3	370	316	370	299	331	23	NS
SO4	86	79	168	47	99	41	250
Cl	244	296	584	146	266	136	250
NO3-N	4.00	5.40	8.20	1.90	5.26	1.88	10
F	0.47	0.36	0.62	0.36	0.45	0.08	4.0
SIO2	17.3	16.2	21.4	16.1	18.3	1.7	NS
TDS	955	925	1340	615	904	237	500
EC (umhos/cm)	1480	1570	2450	1040	1520	431	NS
Alk as CaCO3	303	259	303	245	271	19	NS
pH (Std. Unit)	7.19	7.24	7.39	6.98	7.24	0.11	6.5 to 8.5
As	0.031	0.012	0.031	0.010	0.018	0.007	0.010
Cd*	< 0.001	< 0.001	0.001	< 0.001	0.001	**	0.005
Fe	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	**	0.30
Pb*	< 0.002	< 0.002	0.003	< 0.002	0.002	**	0.150
Mn	0.015	0.088	0.088	< 0.003	0.016	0.026	0.050
Hg*	< 0.0004	< 0.0004	0.0004	< 0.0004	0.0004	**	0.0020
Mo	< 0.010	< 0.010	0.024	< 0.010	0.012	0.004	NS
Se	0.006	0.005	0.012	< 0.003	0.007	0.003	0.050
U	0.009	0.007	0.014	0.006	0.009	0.003	0.030
Ammonia-N*	< 0.1	< 0.1	0.1	< 0.1	< 0.1	**	NS
Ra-226 (pCi/l)	4.8	1.4	6.0	0.5	2.3	1.9	5.0
Plus/Minus	0.2 ·	0.1		tiratariariantana edinasa na morr			

NS: No standard.

^{*}These elements do not occur naturally in the aquifer nor are they part of the process.

^{**} No significant variance in range - standard deviation is not applicable.

One well (OMW-4) exceeds the EPA Drinking Water Standard of 5.0 pCi/l, and the values recorded in wells OMW-5 (3.6 pCi/l) and OMW-8 (4.8 pCi/l) are significantly above typical baseline levels of <1.0 pCi/l. The 2.3 pCi/l average value for radium-226 matches the average value from 47 area wells that were sampled in the baseline water well inventory in late 2006. Although the averages are the same, it should be remembered that the completion zones for many of the area wells are not known. Without knowing the completion zones, a direct comparison cannot be made.

To summarize, Sand A water quality does not meet EPA's Primary Drinking Water Standards for TDS and arsenic. Elevated arsenic levels in the Gulf Coast Aquifer, including sites in Goliad County, are acknowledged in the 2008 State of Texas Water Quality Inventory Groundwater assessment (March 19, 2008). Page 105 of the study states, "As with the Ogallala aquifer, the Gulf Coast aquifer shares some concern over the presence of arsenic." Figure 8 (page 107) from the study shows that sites in northern and southern Goliad County have arsenic levels in excess of the 1.0 mg/I EPA Primary Drinking Water Standard.

The 5.26 mg/l average nitrate level is somewhat elevated compared to many areas of Texas but it is within EPA's 10 mg/l Primary Drinking Water Standard. Nitrate levels at or in excess of the 10 mg/l standard were reported in six wells during the 2006 water well inventory. Elevated nitrate levels are also noted for areas within the Gulf Coast Aquifer in the 2008 State of Texas Water Quality Inventory Groundwater assessment (March 19, 2008). With regard to EPA Secondary Drinking Water Standards, the average chloride value of 266 mg/l slightly exceeds the 250 mg/l standard.

In the upcoming section discussing one of the more strongly mineralized portions of the aquifer, Sand B Production Zone, it will be shown that there is a pronounced difference in water quality between Sand A and Sand B. In view of the conclusions given in Chapter 3.0 Production Area Geology and Hydrology and Chapter 4.0 Hydrologic Testing, it is not surprising to find distinct water quality differences between the two sands. Hydrologic testing verified that the substantial clay/shale confining layers described in the geology chapter effectively isolate the two sands from each other - without these effective barriers, the two sands would have similar water quality.

Evaluation of the deeper subsurface geology shows significant confining layers between the base of Sand C and the top of Sand D. As demonstrated in the Mine Permit Application, Sand D too is adequately confined at its top and base with clay/shale layers.

5.2 Production Zone (Sand B)

For the purposes of hydrologic testing and baseline characterization, 17 wells were completed in Production Zone Sand B. To date, 10 of the wells have been sampled and the analyses are discussed herein. As noted earlier, UEC plans to sample the other 7 wells in early September. UEC has requested TCEQ to observe the upcoming sampling event and to collect split samples from any of the existing baseline wells. Upon receiving the laboratory results on the additional 7 wells and completing its quality assurance/quality control review, UEC will supplement the production zone baseline water quality section of this Application with the expanded database. Results from this additional sampling effort are expected by early October.

The locations of the 10 wells within the Production Area are shown on the previously referenced Figure 1-4 Production Area Map. The wells labeled PTW-1 through PTW-6 and RBLB-1, 3, 4, and 5 are completed in Sand B. As can be seen from the map, the wells are distributed in a pattern that provides coverage throughout the production area. Covering the area in this manner not only provided a better basis for characterizing the water quality, it also provided a wider array of well locations for hydrologic testing (well pumping).

Water quality analyses for the 36-acre Production Area are presented in Table 5.2. A review of the table shows that the water quality fails to meet EPA Primary Drinking Water Standards; TDS, and more importantly uranium and radium-226, are in excess of the standards. Although the average TDS value of 624 mg/l exceeds EPA's 500 mg/l by approximately 120 mg/l, it is the presence of uranium and radium-226 that sets this water far apart from water that is deemed acceptable for human consumption. Because this 36 acre portion of the aquifer contains natural uranium mineralization, elevated levels of uranium and radium-226 are to be expected; it is the presence of these elements, and to a lesser extent several other constituents which are discussed below, that make Sand B quite different from overlying Sand A.

Table 5.2 Production Zone (Sand B) Water Quality

	PTW-1	PTW-2	PTW-3	PTW-4	PTW-5	PTW-6
Ca	87	90	110	109	104	106
Mg	11.3	10.9	17.5	15.1	15.9	16.5
Na	117	110	100	106	98	102
K	3.3	4.7	2.7	4.5	2.5	2.8
CO3	0	0	0	0	0	0
HCO3	322	251	346	338	360	344
SO4	47	61	45	50	11	38
Cl	165	166	166	166	166	167
NO3-N	< 0.01	0.02	0.02	0.05	< 0.01	< 0.01
F	0.79	0.67	0.65	0.62	0.57	0.57
SIO2	12.1	13.5	14.5	14.3	13.6	14.2
TDS	593	620	640	638	623	620
EC (umhos/cm)	1000	1020	1120	1120	1070	1110
Alk as CaCO3	264	206	284	277	295	282
pH (Std. Unit)	7.32	7.55	7.35	7.37	7.32	7.30
As	0.008	0.010	0.007	0.009	0.002	< 0.002
Cd*	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe	0.031	0.017	0.063	0.005	< 0.030	< 0.030
Pb*	< 0.002	< 0.002	< 0.002	< 0.002	0.002	0.004
Mn	0.012	0.006	0.025	0.015	0.008	0.013
Hg*	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Mo	0.136	0.070	< 0.010	< 0.043	< 0.010	< 0.010
Se	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
U	0.032	0.009	0.009	0.059	0.005	0.010
Ammonia-N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ra-226 (pCi/l)	17.0	17.0	38.0	196.0	357.0	202.0
Plus/Minus	1.0	1.0	1.0	1.0	2.0	1.0

^{*}These elements do not occur naturally in the aquifer nor are they part of the process.

Table 5.2 Production Zone (Sand B) Water Quality

	RBLB-1	RBLB-3	RBLB-4	RBLB-5	High	Low	Average	STDEV
Ca	100	91	101	88	110	87	99	8
Mg	19.0	15.8	20.2	16.5	20.2	10.9	15.9	2.8
Na	98	95	100	94	117	94	102	7
K	6.6	8.9	7.1	4.4	8.9	2.5	4.7	2.0
CO3	ND	ND	ND	ND	0	0	0	**
HCO3	332	302	325	340	360	251	326	29
SO4	82	41	69	9	82	9	45	22
Cl	161	163	150	163	167	150	163	5
NO3-N	ND	0.05	ND	ND	0.05	0.01	0.02	0.02
F	0.70	0.70	0.70	0.80	0.80	0.57	0.68	0.08
SIO2	32.2	31.6	32.0	31.6	32.2	12.1	21.0	8.9
TDS	644	614	666	584	666	584	624	23
EC (umhos/cm)	1160	1070	1140	1050	1160	1000	1086	50
Alk as CaCO3	272	253	266	279	295	206	268	23
pH (Std. Unit)	7.43	7.79	7.54	7.63	7.79	7.30	7.46	0.15
As	0.006	0.030	0.004	0.009	0.030	< 0.002	0.009	0.008
Cd*	ND	ND	ND	ND	< 0.001	< 0.001	< 0.001	**
Fe	ND	ND	ND	ND	0.060	ND	0.029	0.025
Pb*	ND	ND	ND	ND	0.004	< 0.002	0.002	**
Mn	0.020	0.020	ND	0.020	0.025	0.006	0.015	0.006
Hg*	ND .	ND	ND	ND	< 0.0004	< 0.0004	< 0.0004	**
Mo	ND	ND	ND	ND	0.136	< 0.010	0.047	0.046
Se	0.001	0.002	0.001	0.001	0.003	0.001	0.002	**
U	0.062	0.080	0.006	0.060	0.080	0.005	0.033	0.028
Ammonia-N	ND	ND	0.08	0.06	< 0.1	< 0.1	< 0.1	**
Ra-226 (pCi/l)	393.0	111.0	37.2	1090.0	1090.0	17.0	245.8	309.9
Plus/Minus	5.7	3.9	2.1	9.6	Plate de la companya	·	and the second s	unioni. Nei 1. käistuutalihatiden ta

^{*}These elements do not occur naturally in the aquifer nor are they a part of the process.

^{**}Not calculated - range is insignificant.

Of the 10 Production Zone Sand B wells, 50% have uranium concentrations in excess of the Drinking Water Standard of 0.030 mg/l. With regard to radium-226, 100% of the wells are in excess of the 5 pCi/l standard. The lowest radium-226 values (17 pCi/l) in the Mine Area are from wells PTW-1 and PTW-2. The other 8 wells have values that far exceed the 5 pCi/l standard. As shown in the table, values range from 37 pCi/l to 1,090 pCi/l. The average radium-226 concentration is 246 pCi/l, which is nearly 50 times higher than the EPA Primary Drinking Water Standard. The lowest radium-226 value of 17 pCi/l is almost 3.5 times higher than the drinking water standard and the high value of 1,090 exceeds the drinking water standard by 218 times. Although not as far ranging or high, uranium values exceed the drinking water standard in every other well, and the average for all 10 wells (0.033 mg/l) is just over the standard.

In summary, the Sand B aquifer does not meet EPA Primary Drinking Water Standards. Moreover, because of its high radium-226 content, water from this zone would not be suitable for long-term irrigated agriculture. Watering of livestock from this zone should also be avoided, especially since much higher quality water is locally present throughout the non-mineralized portions of the aquifer.

5.3 <u>Mine Area (Sand B Perimeter Monitor Wells)</u>

Referring back again to the previously cited Figure 1-4 Production Area Map, the Production Zone Monitor Ring can be seen in relation to the 36-acre Production Area. The area encompassed by the monitor well ring is approximately 94 acres. All 22 wells were sampled and analyzed for the same 26 water quality constituents given in the tables for Sand A Non-production Zone and Sand B Production Zone. Not unexpectedly, the subsequent discussion will show that baseline water quality in the Mine Area is more similar to that in the Production Area. Since the Mine Area wells (i.e., those in the Production Zone Monitor Well Ring) are completed in Sand B, water quality should be quite similar; however, the levels of uranium and radium-226 should not be as high as they are in the Production Area.

Table 5.3 summarizes the water quality values for the 22 production zone monitor wells. It is immediately obvious from the table that the water quality in the Mine Area also fails to meet EPA Primary Drinking Water Standards. Unlike Sand B Production Zone, the Mine Area meets the drinking water standard for uranium; however, it does not meet the 5 pCi/l drinking water standard for radium-226.

Table 5.3 Baseline Monitor Wells (Production Zone)

	BMW-1	BMW-2	BMW-3	BMW-4	BMW-5
Ca	88	82	105	110	105
Mg	19.5	17.2	18.1	17.4	16.6
Na	104	101	93	98	99
K	3.14	3.39	4.98	3.17	4.03
CO3	0	0	0	0	0
HCO3	350	338	317	320	318
SO4	26	15	61	55	57
Cl	169	158	165	166	162
NO3-N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
F	0.60	0.60	0.60	0.55	0.60
SIO2	16.1	14.8	13.9	13.8	13.2
TDS	620	575	643	640	638
EC (umhos/cm)	1100	1040	1090	1100	1090
Alk as CaCO3	287	277	260	262	261
pH (Std. Unit)	7.43	7.46	7.38	7.35	7.44
As	0.006	0.007	0.005	< 0.002	< 0.002
Cd*	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe	0.196	0.061	< 0.030	< 0.030	0.035
Pb*	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Mn	0.022	0.012	0.009	0.009	0.009
Hg*	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Mo	< 0.010	< 0.010	0.011	< 0.010	< 0.010
Se	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
U	0.013	0.017	0.009	0.006	0.015
Ammonia-N*	< 0.1	0.2	< 0.1	< 0.1	< 0.1
Ra-226 (pCi/l)	28.0	27.0	9.8	29.0	41.0
Plus/Minus ·	1.0	1.0	0.3	1.0	1.0

^{*}These elements do not occur naturally in the aquifer nor are they part of the process.

Table 5.3 Baseline Monitor Wells (Production Zone)

	BMW-6	BMW-7	BMW-8	BMW-9	BMW-10
Ca	105	101	103	108	96
Mg	16.90	14.50	15.50	15.40	14.60
Na	99	100	104	105	103
K	3.16	3.34	3.81	2.92	3.28
CO3	0	0	0	0	0
HCO3	310	294	304	321	309
SO4	57	53	50	48	47
Cl	165	166	164	172	160
NO3-N	< 0.01	< 0.01	< 0.01	0.01	< 0.01
F	0.60	0.60	0.60	0.62	0.60
SIO2	13.3	13.2	12.3	13.0	15.3
TDS	640	653	658	680	610
EC (umhos/cm)	1090	1060	1070	1100	1050
Alk as CaCO3	254	241	249	263	253
pH (Std. Unit)	7.34	7.40	7.42	7.42	7.88
As	0.002	0.002	< 0.002	< 0.002	0.004
Cd*	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe	< 0.030	< 0.03	0.036	< 0.030	0.016
Pb*	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Mn	0.009	0.007	0.009	0.032	0.007
Hg*	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Mo	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Se	0.004	< 0.003	< 0.003	< 0.003	< 0.003
U	0.002	0.004	0.003	0.188	< 0.001
Ammonia-N*	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ra-226 (pCi/l)	2.9	1.8	1.7	1.8	1.5
Plus/Minus	0.1	0.1	0.1	0.1	0.1

^{*}These elements do not occur naturally in the aquifer nor are they part of the process.

Table 5.3 Baseline Monitor Wells (Production Zone)

	BMW-11	BMW-12	BMW-13	BMW-14	BMW-15
Ca	95	99	95	99	99
Mg	17.20	17.90	18.90	18.50	18.00
Na	106	106	109	105	106
K	3.75	3.29	4.66	3.33	3.34
CO3	0	0	0	0	0
HCO3	316	306	321	333	332
SO4	63	89	70	73	73
Cl	168	168	165	158	162
NO3-N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
F	0.57	0.55	0.51	0.60	0.57
SIO2	15.8	15.8	17.9	17.4	18.0
TDS	678	698	658	645	705
EC (umhos/cm)	1110	1140	1130	1130	1130
Alk as CaCO3	259	251	273	272	272
pH (Std. Unit)	8.18	7.89	7.95	7.84	7.85
As	0.007	0.007	0.011	0.008	0.006
Cd*	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe	< 0.030	0.050	< 0.030	< 0.030	< 0.030
Pb*	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Mn	0.012	0.033	0.018	0.021	0.021
Hg*	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Mo	< 0.010	< 0.010	0.014	< 0.010	< 0.010
Se	< 0.003	< 0.003	< 0.003	0.006	< 0.003
U	0.001	0.008	0.031	0.001	0.001
Ammonia-N*	0.2	< 0.1	< 0.1	< 0.1	< 0.1
Ra-226 (pCi/l)	1.7	4.9	2.4	1.5	0.9
Plus/Minus	0.1	0.2	0.2	0.1	0.1

^{*}These elements do not occur naturally in the aquifer nor are they part of the process.

Table 5.3 Baseline Monitor Wells (Production Zone)

	BMW-16	BMW-17	BMW-18	BMW-19	BMW-20
Ca	82	95	88	95	90
Mg	16.60	17.40	17.90	18.20	18.00
Na	115	116	120	108	106
K	4.69	3.38	5.13	4.42	3.31
CO3	0	0	0	0	0
HCO3	301	346	325	320	314
SO4	56	55	56	62	64
Cl	169	164	170	172	163
NO3-N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
F	0.52	0.60	0.55	0.53	0.65
SIO2	16.2	18.1	18.1	17.9	17.0
TDS	643	685	658	655	635
EC (umhos/cm)	1090	1140	1130	1130	1100
Alk as CaCO3	247	284	266	262	257
pH (Std. Unit)	8.05	7.49	7.46	7.50	7.50
As	0.008	0.006	0.004	0.006	0.069
Cd*	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Fe	< 0.030	< 0.030	< 0.030	< 0.030	0.037
Pb*	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Mn	0.015	0.026	0.010	0.012	0.050
Hg*	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Mo	0.035	< 0.010	< 0.010	0.012	0.481
Se	< 0.003	< 0.003	< 0.003	0.003	< 0.003
U	0.007	0.002	0.005	0.008	0.057
Ammonia-N*	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ra-226 (pCi/l)	1.9	1.5	1.8	8.1	40.0
Plus/Minus	0.1	0.1	0.1	0.3	1.0

^{*}These elements do not occur naturally in the aquifer nor are they part of the process.

Table 5.3 Baseline Monitor Wells (Production Zone)

	BMW-21	BMW-22
Ca	95	96
Mg	19.60	20.00
Na	107	104
K	4.00	4.80
CO3	0	0
HCO3	317	312
SO4	63	75
Cl	166	168
NO3-N	< 0.01	< 0.01
F	0.62	0.57
SIO2	17.7	17.1
TDS	650	668
EC (umhos/cm)	1120	1140
Alk as CaCO3	260	256
pH (Std. Unit)	7.28	7.30
As	0.009	0.007
Cd*	< 0.001	< 0.001
Fe	0.063	< 0.030
Pb*	< 0.002	< 0.002
Mn	0.019	0.011
Hg*	< 0.0004	< 0.0004
Мо	0.048	< 0.010
Se	0.004	< 0.003
U	0.029	0.030
Ammonia-N*	< 0.1	< 0.1
Ra-226 (pCi/l)	34.0	22.0
Plus/Minus	1.0	1.0

^{*}These elements do not occur naturally in the aquifer nor are they part of the process.

Table 5.3 Baseline Monitor Wells (Production Zone)

	High	Low	Average	STDEV	EPA
					Standard
Ca	110	82	97	8	NS
Mg	20.0	14.5	17.5	1.5	NS
Na	120	93	105	6	NS
K	5.13	2.92	3.79	0.67	NS
CO3	0	0	0	**	NS
HCO3	350	294	319	14	NS
SO4	89	15	58	15	250
Cl	172	158	165	4	250
NO3-N	0.01	< 0.01	0.01	**	10
F	0.65	0.51	0.58	0.03	4.0
SIO2	18.1	12.3	15.7	1.9	NS
TDS	705	575	652	28	500
EC (umhos/cm)	1140	1040	1104	29	NS
Alk as CaCO3	287	241	262	11	NS
pH (Std. Unit)	8.18	7.28	7.58	0.26	6.5 to 8.5
As	0.069	< 0.002	0.008	0.013	0.010
Cd*	< 0.001	< 0.001	0.001	**	0.005
Fe	0.196	0.030	0.043	0.036	0.300
Pb*	< 0.002	< 0.002	0.002	**	0.150
Mn	0.050	0.007	0.017	0.010	0.050
Hg*	< 0.0004	0.0004	< 0.0004	**	0.0020
Mo	0.481	< 0.01	0.035	0.098	NS
Se	0.006	< 0.003	0.003	0.001	0.050
U	0.188	< 0.001	0.020	0.039	0.030
Ammonia-N*	0.2	< 0.1	0.1	0.03	NS
Ra-226 (pCi/l)	41.0	0.90	12.1	14.0	0.05
Plus/Minus		•			

NS: No standard.

^{*}These elements do not occur naturally in the aquifer nor are they part of the process.

^{**} No significant variance in range - standard deviation is not applicable.

Mine Area water quality also falls short of meeting EPA's Primary Drinking Water Standard for TDS. The average TDS value for the Mine Area is 652 mg/l and the EPA standard is 500 mg/l. The lowest TDS value of 575 mg/l occurred in a single well (BMW-2).

It was previously mentioned that for certain parameters water quality can vary noticeably within an aquifer, and the range of variability for a constituent can be significant over a relatively short distance. A comparison of radium-226 values from the Production Zone with those in the Mine Area provides a good illustration of this point. The average radium-226 level in the monitor well ring is 20 times lower than in the Production Area. The monitor well ring average is 12 pCi/l compared to 246 pCi/l in the Production Area which is only 400 feet from the ring. Although radium-226 is considerably lower at a distance of 400 feet from the Production Area, many of the monitor wells have significantly elevated levels. Table 5.3 shows that approximately 45% of the monitor wells have radium-226 in excess of the drinking water standard. Eighteen percent of the wells exceed the 0.03 mg/l drinking water standard for uranium, and one of the monitor wells (MW-9) is more than 6 times higher than the standard. Again, because the monitor well ring is located very near a delineated ore zone, values such as those listed in the tables are to be expected.

5.4 Water Quality Comparisons

Now that water quality information has been presented for all three zones, a single summary table has been prepared to allow an overall one-page comparison.

At the risk of being repetitive, the water quality comparisons given in Table 5.4 clearly show the significant variability in groundwater from the same aquifer. With the exception of considerably higher radium-226 levels in Production Area, water quality in the Production Area is quite similar to that in the Mine Area. Since wells from these areas are completed in the Production Zone Sand B, similarity can be expected. The main difference between the two areas is that commercial quantities of recoverable uranium are concentrated in the Production Area. However, as discussed above, significant portions of the Production Zone Monitor Well Ring (Mine Area), also have uranium mineralization but the main ore body lies approximately 400 feet inside the ring.

Table 5.4 Water Quality Comparisons (Sand A Non-Production Zone, Production Area Sand B and Production Zone Mine Area

	Overlying	Production	Production Zone
	Sand A	Area	Mine Area
	Average	Average	Average
Ca	184	99	97
Mg	18.7	15.9	17.5
Na	110	102	105
K	2.2	4.7	3.79
CO3	0	0	0
HCO3	331	326	319
SO4	99	45	58
Cl	266	163	165
NO3-N	5.26	0.02	0.01
F	0.45	0.68	0.58
SIO2	18.3	21.0	15.7
TDS	904	624	652
EC (umhos/cm)	1520	1086	1104
Alk as CaCO3	271	268	262
pH (Std. Unit)	7.24	7.46	7.58
As	0.018	0.009	0.008
Cd*	0.001	<0.001	0.001
Fe	< 0.030	0.029	0.043
Pb*	0.002	0.002	0.002
Mn	0.020	0.015	0.017
Hg*	0.0004	<0.0004	< 0.0004
Mo	0.012	0.047	0.035
Se	0.007	0.002	0.003
U	0.009	0.033	0.020
Ammonia-N*	< 0.1	<0.1	0.1
Ra-226 (pCi/l)	2.3	245.8	12.1

^{*}These elements do not occur naturally in the aquifer nor are they part of the process.

Clearly the biggest water quality difference shown on Table 5.4 is between the Overlying Non-production Sand A and the two areas within Production Zone Sand B (Production Area and Mine Area). Major differences can be seen in 9 of the water quality indicators listed below.

Sand A, the shallowest of the aquifers, has significant levels of nitrate compared to Sand B. The precipitous decline in nitrate levels from Sand A to the lower Sand B is yet another example of the hydraulic separation that exists between the two sands. Significant differences in chloride and TDS are additional indicators of the isolation between the two zones. At the PA-1 location in the proposed permit area, Sand A does not have strong uranium mineralization, and this is another indication that the sands are effectively isolated from one another. Because of their isolation, differences certain water quality constituents are expected.

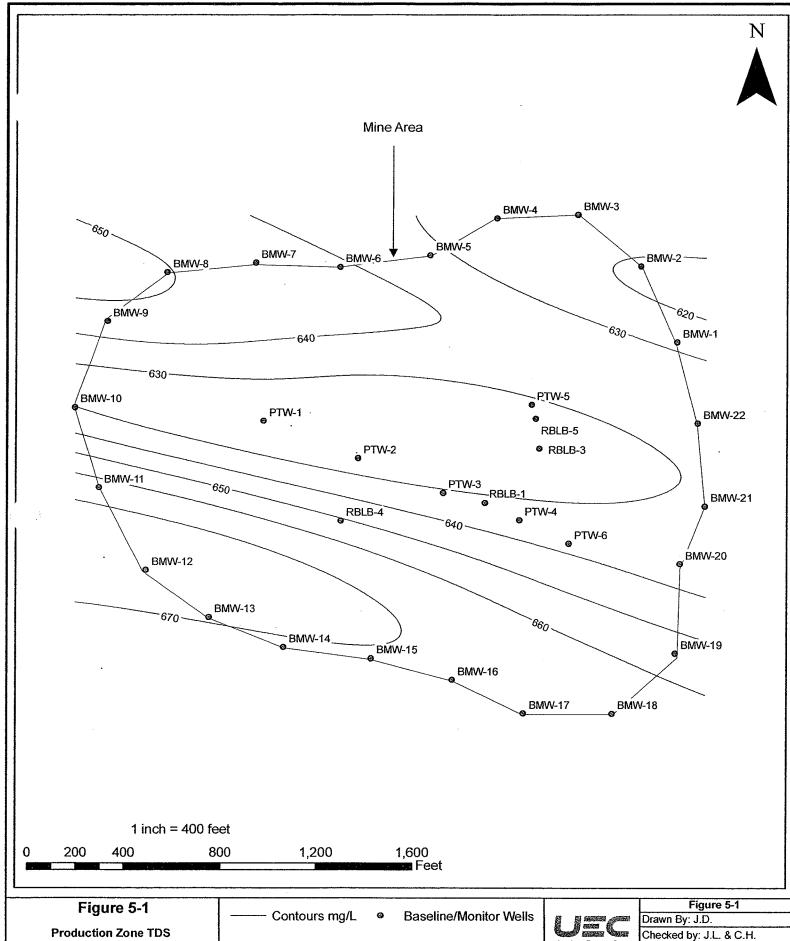
Lastly, it should be remembered from earlier discussions in this chapter that Sand A fails to meet EPA Primary Drinking Water Standards for two non-radiological constituents: TDS and arsenic. Unlike Sand A, Production Sand B fails to meet the drinking water standards for one non-radiological parameter (TDS) and two radiological parameters: radium-226 and uranium.

	Sand A Non- Production Zone	Sand B Production Area	Sand B Mine Area
Calcium (mg/l)	184	99	97
Sulfate (mg/l)	99	45	58
Chloride 9mg/l)	266	163	165
Nitrate (mg/l)	5.26	0.02	0.01
TDS* (mg/l)	904	624	652
Arsenic (mg/l)	0.018	0.009	0.008
Molybdenum (mg/l)	0.012	0.047	0.035
Uranium (mg/l)	0.009	0.033	0.020
Radium-226 (pCi/l)	2.3	246	12

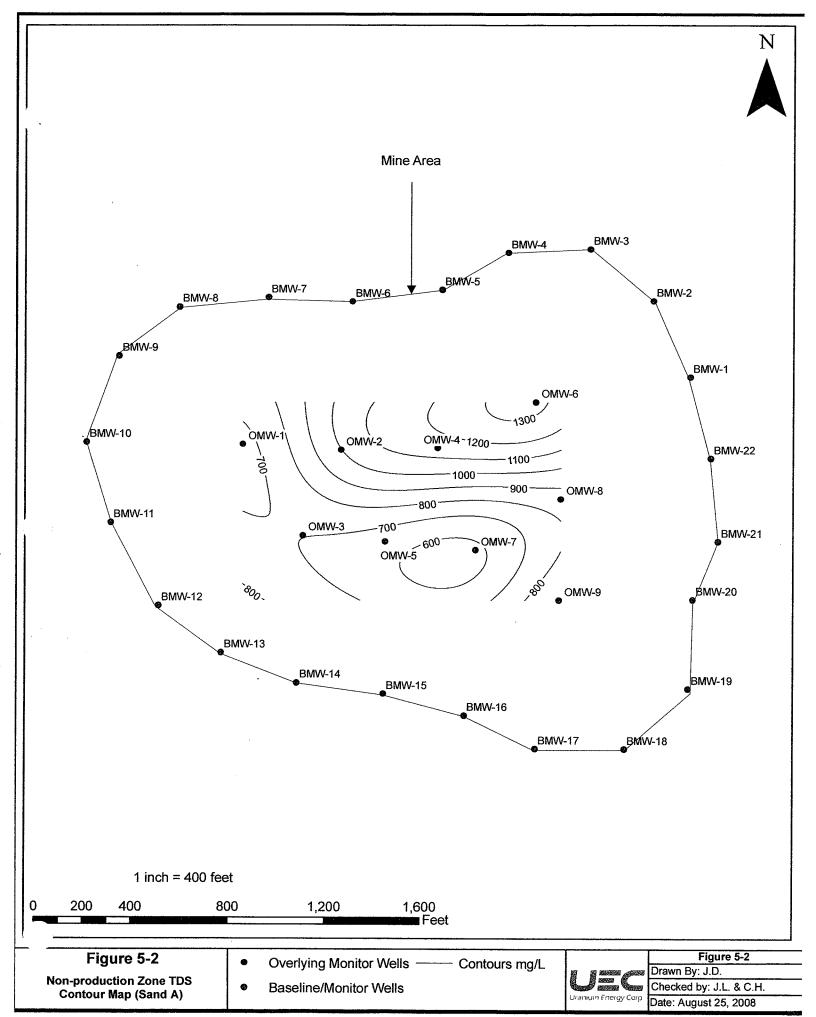
^{*}Total Dissolved Solids.

Up to this point the discussion has focused on the number and location of wells sampled, water quality differences, comparisons with drinking water standards, production area and mine area size, etc. Although all of these important and interesting topics are required elements of the PAA Application, additional information on water levels and TDS variability across the proposed Production Area must also be included in the Application. To that end, four maps are included herein: (1) Production Zone TDS Contours Map; (2) Non-production Zone TDS Contour Map; (3) Production Zone Piezometric Map; and (4) Non-production Zone Piezometric Map.

Figure 5-1 Production Zone TDS Contour Map was constructed using TDS from the 22 monitor wells and the 10 interior production zone wells. TDS values from the nine overlying Sand A wells were used in making Figure 5-2 Non-production Zone TDS Contour Map. Similarly, the piezometric maps were made from water level measurements taken from the baseline wells when hydrologic testing was performed in June and July of this year.



Checked by: J.L. & C.H. Uranium Energy Corp Contour Map (Sand B) Date: August 25, 2008



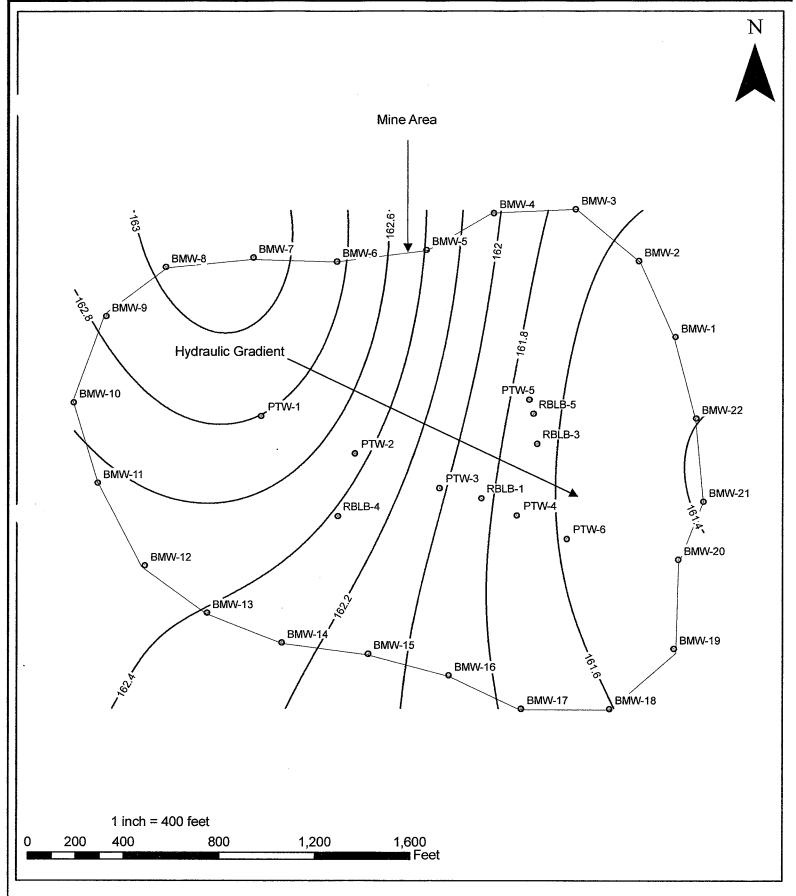


Figure 5-3

Production Zone Piezometric Map (Sand B)

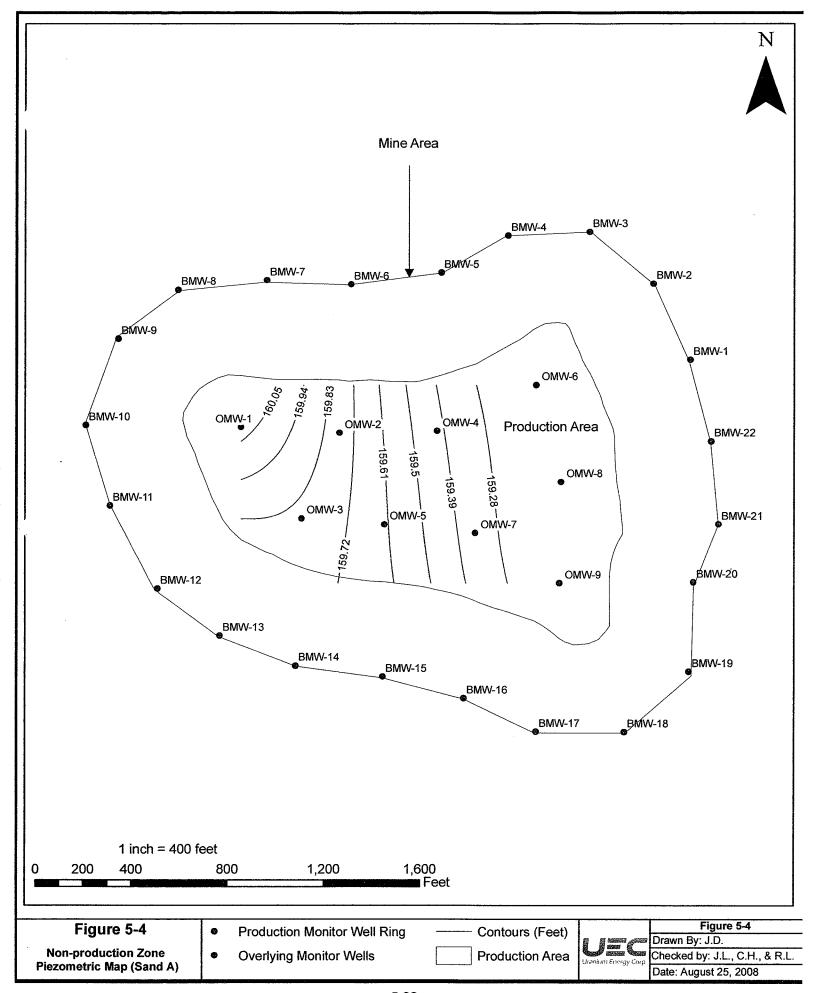
Contours (ft) Baseline/Monitor Wells

Uranium Energy Corp

Baseline/Monitor Wells

Uranium Energy Corp

Drawn By: J.D.
Checked by: J.L., C.H., R.L.
Date: August 25, 2008



6.0 <u>Proposed Restoration Table, Monitor Well Designations and Upper Control Parameters</u>

6.1 Groundwater Analysis Report Summary

As required by TCEQ, water quality values for the baseline wells must be given in a table provided by the agency titled Groundwater Analysis Report Summary: this requirement has been followed, and the water quality values for (1) the Non-production Zone (overlying Sand A); (2) Mine Zone Production Area; and (3) Production Area (Sand B) are summarized in Table 6.1. The well identification for each area is also included in the table.

6.2 Proposed Restoration Table

Using the values from Table 6.1, a proposed Restoration Table was prepared. Table 6.2 is the proposed Restoration Table for PA-1. In accordance with 30 TAC §331.104(d)(1), the values in the table were chosen from the highest averages recorded from either the Mine Area column or the Production Area column.

6.3 <u>Designated Monitor Wells</u>

The designated monitor wells are listed in Table 6.3.

6.4 Designated Baseline Wells

Designated baseline wells are given in Table 6.4.

6.5 <u>Proposed Upper Limits Control Parameters</u>

By far, the best parameters for indicating a change in water quality associated with in situ recovery or restoration operations are chloride and conductivity. These parameters not only provide the earliest indication of a possible excursion, they are also easy to measure, and changes can be quickly detected. In other words, they provide an immediate and reliable measure of change in water quality, and this in turn allows an operator to take corrective measures as soon as possible.

In the past, uranium was included as a third indicator for possibly suggesting that an excursion has occurred, but there was no scientific basis to support it as a proper indicator.

Table 6.1 GROUNDWATER ANALYIS REPORT S SUMMARY

BASELINE WATER QUALITY

Company: Ura

Uranium Energy Corp

3075

Mine:

Goliad Project

Permit:

URO

Prod. Area: 1

Date Summarized:

September 4, 2008

						PRODU	CTION ZO	NE				WELL I	.D. BY AREA	*
	PARAMETER	UNITS	NON PRO	DUCTION Z	CONE	MINE A	REA**		PRODUC	TION ARE	A	NON PROD.	PROD. ZO	NE
			low	average	high	low	average	high	Low	average	high	ZONE	Mine	Prod.
1	Calcium	mg/l	114	184	310	82	97	110	87	99	110	OMW-1	BMW-1	PTW1
2	Magnesium	mg/l	9.2	18.7	32.4	14.5	17.5	20	10.9	15.9	20.2	OMW-2	Through	Thru
3	Sodium	mg/l	83	110	133	93	105	120	94	102	117	OMW-3	BMW-22	PTW6
4	Potassium	mg/l	1.8	2.2	2.6	2.92	3.79	5.13	2.5	4.7	8.9	OMW-4		And
5	Carbonate	mg/l	0	0	0	0	0	0	0	0	0	OMW-5		RBL-1
6	Bicarbonate	mg/l	299	331	370	294	319	350	251	326	360	OMW-6		RBL-3
7	Sulfate	mg/l	47	99	168	15	58	89	9	45	82	OMW-7		RBL-4
8	Chloride	mg/l	146	266	584	158	165	172	150	163	167	OMW-8		RBL-5
9	Fluoride	mg/l	0.36	0.45	0.62	0.51	0.58	0.65	0.57	0.68	0.80	OMW-9		
10	Nitrate – N	mg/l	1.90	5.26	8.20	< 0.01	0.01	0.01	0.01	0.02	0.05			
11	Silica	mg/l	16.1	18.3	21.4	12.3	15.7	18.1	12.1	21	32.2			
12	pН	std. units	6.98	7.24	-7.39	7.28	7.58	8.18	7.30	7.46	7.79			
13	TDS	mg/l	615	904	1340	575	652	705	584	624	666			
14	Conductivity	μmhos	1040	1520	2450	1040	1104	1140	1000	1086	1160			
15	Alkalinity	mg/l	245	271	303	241	262	287	206	268	295			
16	Ammonia-N	mg/l	< 0.1	<0.1	0.1	< 0.1	0.1	0.2	0.06	<0.1	< 0.1			
17	Arsenic	mg/l	0.010	0.018	0.031	< 0.002	0.008	0.069	< 0.002	0.009	0.030			
18	Cadmium	mg/l	<0.001	0.001	0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001			
19	Iron	mg/l	< 0.030	< 0.030	< 0.030	< 0.030	0.043	0.196	< 0.030	0.029	0.060			
20	Lead	mg/l	< 0.002	0.002	0.003	< 0.002	0.002	< 0.002	< 0.002	0.002	0.004			
21	Manganese	mg/l	< 0.003	0.02	0.09	0.007	0.017	0.050	0.006	0.015	0.025			
22	Mercury	mg/l	< 0.0004	0.0004	0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	<0.0004			
23	Molybdenum	mg/l	< 0.010	0.012	0.024	< 0.01	0.035	0.481	< 0.010	0.047	0.136			
24	Selenium	mg/l	< 0.003	0.007	0.012	< 0.003	0.003	0.006	0.001	0.002	0.003			
25	Uranium	mg/l	0.006	0.009	0.014	< 0.001	0.020	0.188	0.005	0.033	0.080			
26	Radium-226	pČi/l	0.5	2.3	6	0.9	12.1	41	17	245.8	1090			

^{*} List the identification numbers of wells used to obtain the high and low values for each parameter.

^{**}Monitor Wells

Table 6.2 Proposed Restoration Table

	Production	Mine	Proposed
	Area	Area	Restoration
	Average	Average	Table
Ca	99	97	99
Mg	15.9	17.5	17.5
Na	102	105	105
K	4.7	3.79	4.7
CO3	0	0	0
HCO3	326	319	326
SO4	45	58	58
Cl	163	165	165
NO3-N	0.02	0.01	0.02
F	0.68	0.58	0.68
SIO2	21.0	15.7	21.0
TDS .	624	652	652
EC (umhos/cm)	1086	1104	1104
Alk as CaCO3	268	262	268
oH (Std. Unit)	7.46	7.58	7.58
As	0.009	0.008	0.009
Cd*	< 0.001	0.001	0.001
² e	0.029	0.043	0.043
Pb*	0.002	0.002	0.002
Мn	0.015	0.017	0.017
Hg*	< 0.0004	< 0.0004	<0.0004
Мo	0.047	0.035	0.047
Se	0.002	0.003	0.003
J	0.033	0.020	0.033
Ammonia-N*	<0.1	0.1	0.1
	245.8	12.1	245.8

^{*}These elements do not occur naturally in the aquifer nor are they part of the process.

Table 6.3 Designated Monitor Wells

Non-production Zone Overlying Sand A	Production Zone Monitor Wells (Mine Area)	Production Zone Monitor Wells (Mine Area)	Production Zone Monitor Wells (Mine Area)
OMW-1	BMW-1	BMW-10	BMW-19
OMW-2	BMW-2	BMW-11	BMW-20
OMW-3	BMW-3	BMW-12	BMW-21
OMW-4	BMW-4	BMW-13	BMW-22
OMW-5	BMW-5	BMW-14	DIVIV 22
OMW-6	BMW-6	BMW-15	
OMW-7	BMW-7	BMW-16	
OMW-8	BMW-8	BMW-17	
OMW-9	BMW-9	BMW-18	

Table 6.4 Designated Production Zone Baseline Wells (Production Area)

PTW-1

PTW-2

PTW-3

PTW-4

PTW-5

PTW-6

RBL-1

PBL-3

RBL-4

RBL-5

Over the history of in situ uranium recovery in Texas, thousands of water samples that were routinely collected from hundreds of monitor wells rarely showed elevated uranium or radium-226. When excursions were detected, the indicators were invariably conductivity and chloride.

The use of uranium as an indicator parameter has come to the attention of the Nuclear Regulatory Commission (NRC). After evaluating it, NRC does not recommend using it as an indicator to detect excursions (see NUREG-1569, Nuclear Regulatory Commission's Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Final Report, June 2003).

UEC is proposing to use the two best indicators (chloride and conductivity) for the Upper Limits Control Parameters. Using chloride and conductivity will provide the earliest warning of a possible excursion. UEC is also proposing that if an excursion is indicated by reaching or exceeding an upper control limit, part of the corrective action would include analyzing the water for uranium, radium-226 and other water quality constituents, as may be requested by TCEQ. Table 6.5 lists the proposed upper control limits. The values given in Table 6.5 were derived by adding 25% to the highest value recorded from the production area during baseline sampling. The method for setting the upper control limit is given in item 14 of the Technical Report for the Production Area Authorization for In Situ Uranium Mining of TCEQ's Production Area Authorization Application Form.

Table 6.5 Proposed Upper Limits Control Parameters

Production Area-1 (Overlying Sand A) Non-production Zone

Chloride: 730 mg/l

Conductivity: 3,062 µmhos

TDS: 1,675 mg/l

Production Area-1 (Production Zone Sand B)

Chloride: 209 mg/l

Conductivity: 1,450 µmhos

TDS: 881 mg/l

7.0 Updated Mine Plan

The affixed seal covers the entire contents of this chapter.



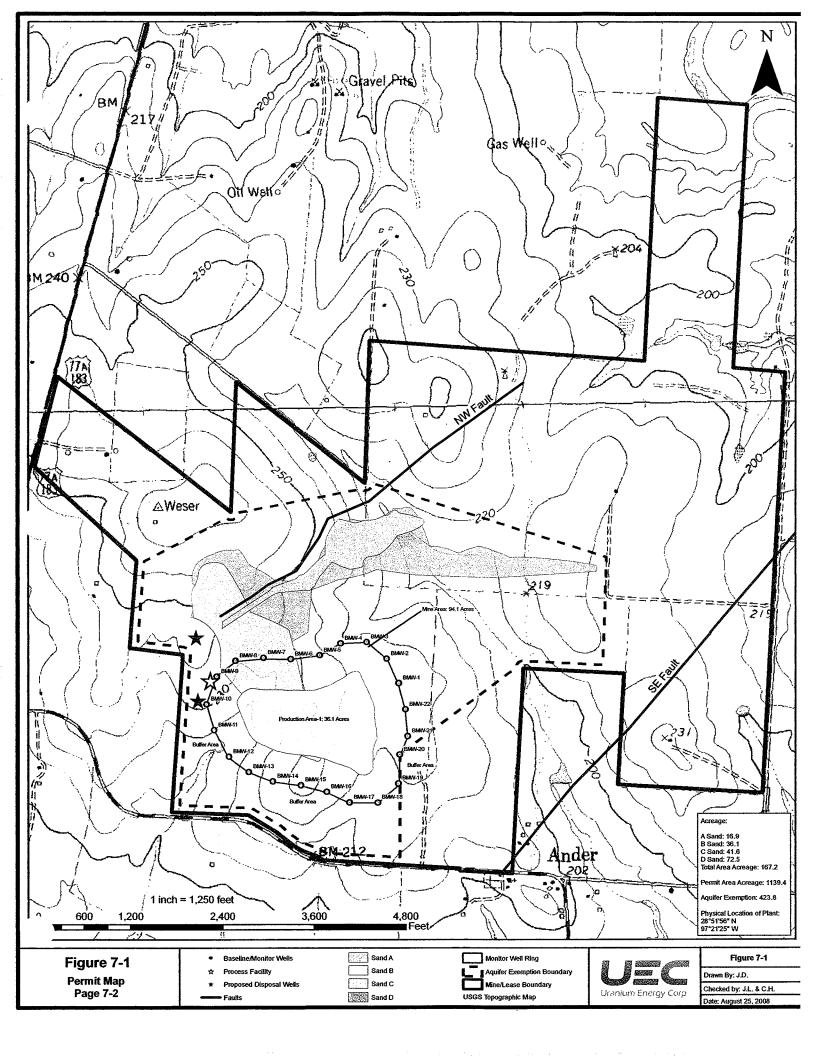
7.0 Updated Mine Plan

7.1 Mine Plan Description

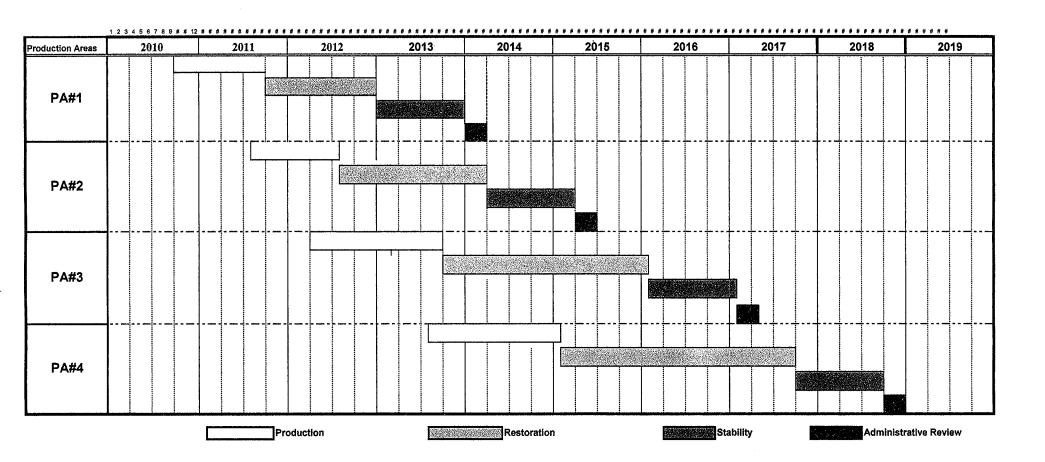
During the past year, UEC has made refinements to the nature of the ore zones. To illustrate, the production area acreage for Sand B was initially estimated to be approximately 25.6 acres; following additional evaluation, production Sand B in PA-1 has been increased to just over 36 acres and Figure 7-1 Permit Map has been updated to show the size and shape of PA-1. The figure has also been updated to show: (1) the production zone monitor well ring; (2) the buffer area between the monitor well ring and the permit/lease boundary; (3) other proposed production areas and their respective acreages; (4) the proposed location of the production facility; and (5) the proposed locations of the waste disposal wells. The updated production and restoration schedules for the mine areas are described in Section 7.2.

7.2 <u>Updated Production and Restoration Schedule</u>

An updated production and restoration schedule has been prepared and is given in Table 7.1 When compared to the estimate given when the Mine Permit Application was submitted to TCEQ, it can be seen that the start date for production is now estimated to begin in 2010. The original estimate showed an estimated start date in the fourth quarter of 2009. The schedule has also been updated to include one year stability periods. As far as operational changes during are concerned, there are no significant changes at this time. The projected new startup date and one year stability period for restoration are the only significant changes.



Updated Production and Restoration Schedule



7.3 Restoration Progress Report

Since the project has yet to begin, there is no restoration progress to report. However, a brief summary of UEC's restoration procedures and plans for reporting restoration progress are outlined in the following discussion.

The technology for restoring groundwater to levels consistent with baseline involves using native groundwater sweep and reverse osmosis (R.O). The effectiveness of current-day restoration has been enhanced by many years of experience. Two major improvements include: 1) initiating restoration as soon as possible following uranium recovery in a given production area and 2) using R.O. during the mining process to keep competing ions from becoming too elevated.

A vital step in achieving successful restoration is to establish representative baseline water quality within the area where uranium will be recovered. In the early days of the industry not enough attention was given to developing a baseline that was representative of the area to be mined. Instead of establishing an adequate number of baseline wells in the potential mine area (the area that must be restored to pre-mining uses), production area baseline wells were inadvertently completed outside the mineralized area; as a result, average, low and high values established for baseline were not representative of the mineralized zone. Because a disproportionate number of baseline wells were completed in the nonmineralized zone this had the obvious affect of mischaracterizing the actual water quality of the mine area. Because of improper placement of wells, baseline conditions in the production area were erroneously shown to be of higher quality, and this in turn set up artificially low restoration targets for a number of constituents and made it impossible to achieve the desired goals. Recognizing this flaw, operators are now making an effort to properly characterize pre-mining groundwater quality in the areas where production will likely occur.

Given the backdrop just described, UEC diligently delineated the production area and constructed a baseline well pattern to properly characterize background water quality conditions. The groundwater quality analyses from this plan support the proposed Restoration Table goals.

UEC plans to use R.O. during the uranium recovery phase to minimize the elevation of competing ions. In doing this, uranium recovery efficiency will be enhanced and water quality will be maintained at a higher level. Maintaining a higher level of water quality during the recovery phase will allow restoration to proceed more quickly and effectively. Restoration and restoration progress will be in accordance with the terms specified in the permit (see Sections G.3, G.4 and G.5.d).

7.4 Updated Fluid Handling Requirements vs. Capacity

Because information on the first production area has been further refined, the overall fluid balance shown on Table 7.2 Updated Fluid Handling Requirement vs. Capacity was re-examined for possible adjustments. Given that the estimates in the table must be based on the estimated maximum operational/restoration capacity, the refinements made to PA-1 do not result in any significant change to Table 7.2. As stated in Section 7.2 above, the main change in the schedule is due to an estimated new startup date and the one year stability period for restoration. Apart from this change, the fluid handling requirements and capacity information given in the Mine Permit Application remains valid.

Table 7.2

	1	Year 1 Mine Plan	1	Jan	1	2 Feb	Ma	. 3	Λ. Λ.	4	May	5	6	le de c	7	A	8	9		11	12	
г	\dashv	Module 1	(kgals)	Jan		Len	ivia		Apr		May		June	July		Aug		Sept	Oct	Nov	Dec	TOTAL
-	PA#I	Module 2	(kgais)	•															108,000	108,000	108,000	324,000
1	à	Module 3	(kgals)																			-
-		Module 4	(kgals)					-4-4	*****				*************				~~~~					- 1
1	#	Module 5	(kgals)																			- 1
-	ă [Module 6	(kgals)																			_
۲		Module 7	(kgals)				~~~~~~	~~~~~~				******										
-1	\$	Module 8	(kgals)																			_ 1
ı	PA#	Module 9	(kgals)																			_
	۵.	Module 10	(kgals)																			_
		Module 11	(kgals)																			_
ľ		Module 12	(kgals)			********	**********	********		~~~~				********		~~~~~				******	*****************	- 1
-	#	Module 13	(kgals)																			-
-	⋖∣	Module 14	(kgals)					•														_
	- 1	Module 15	(kgals)																		Į.	-
L		Module 16	(kgals)																			-
			(kgals)																*************		***************************************	1
			(kgals)																108,000	108,000	108,000	324,000
		Total Restoration Flow	(kgais)																•	-	- 1	-
		Disposal Wells Capacity	(kgals)																10,800	10,800	10,800	32,400
			(g)																10,000	10,000	10,000	32,400
		Production Bleed	(kgals)																1,080	1,080	1,080	3,240
	ŀ	Other Effluents	(kgals)																173	173	173	518
		Restoration RO Brine	(kgals)																	•		-
		Rain Direct	(kgais)																39	39	39	118
	- 1	Total	(kgals)																1,292	1,292	1,292	3,876
		Net Disposal Capacity	(kgals)																9,508	9,508	9,508	28,524
		Total Tank Capacity	(kgals)																180	180	180	540
		Emergency Capacity	(kgals)																90	90	90	270
		Emergency Capacity Available	(kgals)																0.500	0.500	0 500	1
	Ł	Emergency Capacity Available	(nyais)			<u>.</u>													9,598	9,598	9,598	28,794

	, I UDIO 1 .Z				opauloa	1 1010 110		Jupuony	V. I IGIG	Dispose	ai i toquii	CHICHIC			
	Year 2	12	13	14	15	16	17	18	19	20	21	22	23	24	1
	Mine Plan		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTAL
T#	Module 1	(kgals)	108,000	108,000	108,000							31,104	31,104	31,104	417,312
1 #	Module 2	(kgals)		108,000	108,000	108,000	108,000	108,000	108,000				•	, i	648,000
Q d	Module 3	(kgals)			•	108,000	108,000	108,000	108,000	108,000	108,000			ı	648,000
\$	Module 4	(kgals)								108,000	108,000	108,000	108,000	108,000	540,000
		(kgals)									•	108,000	108,000	108,000	324,000
۵	Module 6	(kgals)										,	,,	,	- ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
-	Module 7	(kgals)			*********										-
1,	Module 8	(kgals)													_
\$		(kgals)												Į	
ă	Module 10	(kgals)												Į.	_
- [Module 11	(kgals)												- [
1	Module 12	(kgals)	*************							********		****			- 1
\$	Module 13	(kgals)													_
		(kgals)		•										[-
ă	Module 15	(kgals)												1	_
	Module 16	(kgals)												Ì	
1															
	Total Production Flow	(kgals)	108,000	216,000	216,000	216,000	216,000	216,000	216,000	216,000	216,000	247,104	247,104	247,104	2,577,312
	Total Restoration Flow	(kgals)	,	,		,			,	-	,	31,104	31,104	31,104	93,312
		` ' '										0.,	-1,101	0.,	,
	Disposal Wells Capacity	(kgals)	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	129,600
		`	•	•	·	•	•	•	•			,	,	,	,
	Production Bleed	(kgals)	1,080	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,471	2,471	2.471	25,773
	Other Effluents	(kgals)	173	173	173	173	173	173	173	173	173	173	173	173	2,074
	Restoration RO Brine	(kgals)	-	-	-	-	-	-	-	-	-	7,776	7,776	7,776	23,328
	Rain Direct	(kgals)	39	39	39	39	39	39	39	39	39	39	39	39	472
	Total	(kgais)	1,292	2,372	2,372	2,372	2,372	2,372	2,372	2,372	2,372	10,459	10,459	10,459	51,646
												·		·	· ·
	Net Disposal Capacity	(kgals)	9,508	8,428	8,428	8,428	8,428	8,428	8,428	8,428	8,428	341	341	341	77,954
	Total Tank Capacity	(kgals)	180	180	180	180	180	180	180	180	180	180	180	180	2,160
	Emergency Capacity	(kgals)	90	90	90	90	90	90	90	90	90	90	90	90	1,080
															1
	Emergency Capacity Available	(kgals)	9,598	8,518	8,518	8, 51 8	8,518	8,518	8,518	8,518	8,518	431	431	431	79,034
		i													

	100001.2				obaaroa	I Idid I I	andmig c	Japacity	V3. 1 1010	, Diaboa	ai i toqui	CHICHES			
	Year 3	ł	25	26	27	28	29	30	31	32	33	34	35	36	
	Mine Plan		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTAL
#	Module 1	(kgals)	31,104	31,104						······································	······································				62,208
₩ A	Module 2	(kgals)			31,104	31,104	31,104	31,104	31,104						155,520
1 -	Module 3	(kgals)			•	·	•	•	,	31,104	31,104	31,104	31,104	31,104	155,520
#	Module 4	(kgals)	108,000					**********	*************						108,000
PA#	Module 5	(kgals)	108,000	108,000	108,000										324,000
0	Module 6	(kgals)		108,000	108,000	108,000	108,000	108,000	108,000						648,000
	Module 7	(kgals)				108,000	108,000	108,000	108,000	108,000	108,000				648,000
₹	Module 8	(kgals)					,	,	.00,000	108,000	108,000	108,000	108,000	108,000	540,000
	Module 9	(kgals)								100,000	100,000	108,000	108,000	108,000	1 '
Æ	Module 10	(kgals)										100,000	100,000	100,000	324,000
	Module 11	(kgals)													-
_	Module 12	(kgals)	***********				***************								-
4	Module 13	(kgals)													-
#	Module 14	(kgals)													•
₽	Module 15	(kgals)													-
	Module 16	(kgals)													-
				***********		************		************							-
	Total Production Flow	(kgals)	247,104	247,104	247,104	247,104	247,104	247,104	247,104	247,104	247,104	247,104	247,104	047.404	0.005.040
	Total Restoration Flow	(kgals)	31,104	31,104	31,104	31,104	31,104	31,104	31,104	31,104	31,104	31,104	31.104	247,104 31,104	2,965,248
		()	,	.,,	.,	V.,,.	W1,1W4	01,104	01,104	01,104	51,104	31,104	31,104	31,104	373,248
	Disposal Wells Capacity	(kgals)	10,800	10.800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	129,600
		`	•	,		,	,	,	,	10,000	10,000	10,000	10,000	10,800	125,600
	Production Bleed	(kgals)	2,471	2,471	2,471	2,471	2,471	2,471	2,471	2.471	2,471	2,471	2,471	2,471	29,652
	Other Effluents	(kgals)	173	173	173	173	173	173	173	173	173	173	173	173	2,074
	Restoration RO Brine	(kgals)	7,776	7,776	7,776	7,776	7,776	7,776	7,776	7.776	7,776	7,776	7.776	7,776	93,312
	Rain Direct	(kgais)	39	39	39	39	39	39	39	39	39	39	39	39	472
	Total	(kgals)	10,459	10,459	10,459	10,459	10,459	10,459	10,459	10,459	10,459	10,459	10,459	10,459	125,510
				•	•	•	•		,	,	,	,	, , , , ,	10,400	120,010
	Net Disposal Capacity	(kgals)	341	341	341	341	341	341	341	341	341	341	341	341	4,090
	Total Tank Capacity	(kgals)	180	180	180	180	180	180	180	180	180	180	180	180	2,160
	Emergency Capacity	(kgals)	90	90	90	90	90	90	90	90	90	90	90	90	1,080
		- 1													.,000
	Emergency Capacity Available	(kgals)	431	431	431	431	431	431	431	431	431	431	431	431	5,170

Table 7.2

	Year 4 Mine Plan		37 Jan	38 Feb	39 Mar	40 Apr	41 Mav	42 June	43 July	44 Aug	45 Sept	46 Oct	47 Nov	48 Dec	TOTAL
T	Module 1	(kgals)			17101		May	- Guile	Odiy	Aug	ОСРЕ		1404	Dec	IOTAL
#	Module 2	(kgals)													_
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Module 3	(kgals)													
8	Module 4	(kgals)	31,104	31,104	31,104	31,104	31,104							**********	155,520
¥.	Module 5	(kgais)						31,104	31,104	31,104	31,104	31,104			155,520
1 -	Module 6	(kgals)										·	31,104	31,104	62,208
	Module 7	(kgals)		~~~~~~~~~		************							************		
帮	Module 8	(kgals)	108,000												108,000
¥ A	Module 9	(kgals)	108,000	108,000	108,000										324,000
1 0	Module 10	(kgals)		108,000	108,000	108,000	108,000	108,000	108,000						648,000
	Module 11	(kgals)				108,000	108,000	108,000	108,000	108,000	108,000				648,000
	Module 12	(kgals)							~~~~~~	108,000	108,000	108,000	108,000	108,000	540,000
#	Module 13	(kgals)										108,000	108,000	108,000	324,000
¥ A	Module 14	(kgals)													
10-	Module 15	(kgais)													-
1	Module 16	(kgals)													- 1
-				***********		***********			~~~~~~~						
	Total Production Flow	(kgals)	247,104	247,104	247,104	247,104	247,104	247,104	247,104	247,104	247,104	247,104	247,104	247,104	2,965,248
	Total Restoration Flow	(kgals)	31,104	31,104	31,104	31,104	31,104	31,104	31,104	31,104	31,104	31,104	31,104	31,104	373,248
	Disposal Wells Capacity	(kgals)	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	129,600
	Production Bleed	(kgais)	2,471	2,471	2,471	2,471	2,471	2,471	2,471	2,471	2,471	2,471	2,471	2,471	29,652
	Other Effluents	(kgals)	173	173	173	173	173	173	173	173	173	173	173	173	2,074
	Restoration RO Brine	(kgals)	7,776	7,776	7,776	7,776	7,776	7,776	7,776	7,776	7,776	7,776	7,776	7,776	93,312
	Rain Direct	(kgals)	39	39	39	39	39	39	39	39	39	39	39	39	472
	Total	(kgals)	10,459	10,459	10,459	10,459	10,459	10,459	10,459	10,459	10,459	10,459	10,459	10,459	125,510
	Net Disposal Capacity	(kgals)	341	341	341	341	341	341	341	341	341	341	341	341	4,090
	Total Tank Capacity	(kgals)	180	180	180	180	180	180	180	180	180	180	180	180	2,160
	Emergency Capacity	(kgals)	90	90	90	90	90	90	90	90	90	90	90	90	1,080
	Emergency Capacity Available	(kgals)	431	431	431	431	431	431	431	431	431	431	431	431	5,170

Table 7.2

	Year 5 Mine Plan		49 Jan	50 Feb	51 Mar	52 Apr	53 Mav	54 June	55 Julv	56 Aug	57 Sept	58 Oct	59 Nov	60 Dec	TOTAL
T#	Module 1	(kgals)													101/12
₩.	Module 2	(kgals)													_
<u></u>	Module 3	(kgals)													_
#	Module 4	(kgals)										************			_
₽ A	Module 5	(kgals)													_
1	Module 6	(kgals)	31,104	31,104	31,104										93,312
Г	Module 7	(kgals)				31,104	31,104	31,104	31,104	31,104			******		155,520
₽	Module 8	(kgals)							•	•	31,104	31,104	31,104	31,104	124,416
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Module 9	(kgals)										- 1,10	0.,.0.	01,101	12.1,110
1 4	Module 10	(kgals)													
	Module 11	(kgals)													_
	Module 12	(kgals)	108,000	***********					~~~~~~			***************************************	******		108,000
#	Module 13	(kgals)	108,000	108,000	108,000										324,000
₩ A	Module 14	(kgals)		108,000	108,000	108,000	108,000	108,000	108,000						648,000
0.	Module 15	(kgals)		,	•	108,000	108,000	108,000	108,000	108,000	108,000				648,000
	Module 16	(kgals)				·	·	·	·	108,000	108,000	108,000	108,000	108,000	540,000
L	***************************************				********		~~~~	*****			~~~~~			100,000	040,000
	Total Production Flow	(kgals)	247,104	247,104	247,104	247,104	247,104	247,104	247,104	247,104	247,104	139,104	139,104	139,104	2,641,248
	Total Restoration Flow	(kgals)	31,104	31,104	31,104	31,104	31,104	31,104	31,104	31,104	31,104	31,104	31,104	31,104	373,248
	Disposal Wells Capacity	(kgals)	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	129,600
	Production Bleed	(kgals)	2,471	2,471	2,471	2,471	2,471	2,471	2,471	2.471	2,471	1,391	1,391	1,391	26,412
	Other Effluents	(kgals)	173	173	173	173	173	173	173	173	173	173	173	173	2,074
	Restoration RO Brine	(kgals)	7,776	7,776	7,776	7,776	7,776	7,776	7,776	7,776	7,776	7,776	7,776	7,776	93,312
	Rain Direct	(kgals)	39	39	39	39	39	39	39	39	39	39	. 39	39	472
	Total	(kgais)	10,459	10,459	10,459	10,459	10,459	10,459	10,459	10,459	10,459	9,379	9,379	9,379	122,270
	Net Disposal Capacity	(kgals)	341	341	341	341	341	341	341	341	341	1,421	1,421	1,421	7,330
	Total Tank Capacity	(kgals)	180	180	180	180	180	180	180	180	180	180	180	180	2,160
	Emergency Capacity	(kgals)	90	90	90	90	90	90	90	90	90	90	90	90	1,080
	Emergency Capacity Available	(kgals)	431	431	431	431	431	431	431	431	431	1,511	1,511	1,511	8,410

Table 7.2

	Year 6	62	61	62	63	64	65	66	67	68	69	70	71	72	1
	Mine Plan		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTAL
#	Module 1	(kgals)													-
₹	Module 2	(kgals)													- 1
L	Module 3	(kgals)					************								-
#	Module 4	(kgals)													
ă	Module 5	(kgals)													-
	Module 6	(kgals)												- 1	-
1	Module 7	(kgals)													-
83	Module 8	(kgals)	31,104	•										1	31,104
PA #3	Module 9	(kgals)		38,880	38,880	38,880	38,880							1	155,520
۱۳	Module 10	(kgals)						38,880	38,880	38,880	38,880			- 1	155,520
	Module 11	(kgals)										38,880	38,880	38,880	116,640
	Module 12	(kgals)										~~~			· -
1	Module 13	(kgals)												Ì	-
¥ A	Module 14	(kgals)												1	- 1
-	Module 15	(kgals)				•								1	-
l	Module 16	(kgals)	108,000											+	108,000
								******					************	~	,
	Total Production Flow	(kgals)	139,104	38,880	38,880	38,880	38,880	38,880	38,880	38,880	38,880	38,880	38,880	38,880	566,784
	Total Restoration Flow	(kgals)	31,104	38,880	38,880	38,880	38,880	38,880	38,880	38,880	38,880	38,880	38,880	38,880	458,784
										•		·	·	ĺ	,
	Disposal Wells Capacity	(kgals)	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	129,600
	Production Bleed	(kgals)	1,391	389	389	389	389	389	389	389	389	389	389	389	5,668
	Other Effluents	(kgals)	173	173	173	173	173	173	173	173	173	173	173	173	2,074
	Restoration RO Brine	(kgals)	7,776	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	114,696
	Rain Direct	(kgals)	39	39	. 39	39	39	39	39	39	39	39	39	39	472
	Total	(kgals)	9,379	10,321	10,321	10,321	10,321	10,321	10,321	10,321	10,321	10,321	10,321	10,321	122,909
	Net Disposal Capacity	(kgals)	1,421	479	479	479	479	479	479	479	479	479	479	479	6,691
	Total Tank Capacity	(kgals)	180	180	180	180	180	180	180	180	180	180	180	180	2,160
	Emergency Capacity	(kgals)	90	90	90	90	90	90	. 90	90	90	90	90	90	1,080
	Emergency Capacity Available	(kgals)	1,511	569	569	569	569	569	569	569	569	569	569	569	`
	yy -aparty / trailable	(,,,,,,,)	.,,,,,,				505	300	202	508	203	203	202	800	7,771

Table 7.2

	Year 7 Mine Plan	1	73 Jan	74 Feb	75 Mar	76 Apr	77 May	78 June	79 July	80 Aug	81 Sept	82 Oct	83 Nov	84	TOTAL
<u></u>	Module 1	(kgals)		1 65	14161		IVICIY	Julie	July	Aug	Sept	OGL	1000	Dec	TOTAL
#	Module 2	(kgals)													- 1
₹	Module 3	(kgals)													
*	Module 4	(kgals)		**********								************	***********		_ [
PA#	Module 5	(kgals)												I	
۵	Module 6	(kgals)													.
	Module 7	(kgals)								********			*******		- 1
帮	Module 8	(kgals)													_
¥ B	Module 9	(kgals)												Í	- 1
۱ ۵	Module 10	(kgals)												ł	.
L	Module 11	(kgals)	38,880												38,880
	Module 12	(kgals)		38,880	38,880	38,880	38,880			***************************************		********			155,520
#	Module 13	(kgals)						38,880	38,880	38,880	38,880				155,520
*	Module 14	(kgals)										38,880	38,880	38,880	116,640
1 4	Module 15	(kgals)											·	·	- 1
L	Module 16	(kgals)													- 1
	Total Production Flow	(lamala)	20.000	00.000	00.000	00.000	00.000								
	Total Restoration Flow	(kgals)	38,880 38.880	38,880 38,880	38,880 38,880	38,880 38,880	38,880 38,880	38,880	38,880	38,880	38,880	38,880	38,880	38,880	466,560
	Total Restoration Flow	(kgals)	30,000	30,000	30,000	38,880	38,880	38,880	38,880	38,880	38,880	38,880	38,880	38,880	466,560
	Disposal Wells Capacity	(kgals)	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	129,600
	Production Bleed	(kgals)	389	389	389	389	389	389	389	389	389	389	389	389	4,666
	Other Effluents	(kgals)	173	173	173	173	173	173	173	173	173	173	173	173	2,074
	Restoration RO Brine	(kgals)	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	116,640
	Rain Direct	(kgals)	39	39	39	39	39	39	39	39	39	39	39	39	472
	Total	(kgals)	10,321	10,321	10,321	10,321	10,321	10,321	10,321	10,321	10,321	10,321	10,321	10,321	123,851
	Net Disposal Capacity	(kgals)	479	479	479	479	479	479	479	479	479	479	479	479	5,749
	Total Tank Capacity	(kgals)	180	180	180	180	180	180	180	180	180	180	180	180	2,160
	Emergency Capacity	(kgals)	90	90	90	90	90	90	90	90	90	90	90	90	1,080
	Emergency Capacity Available	(kgals)	569	569	569	569	569	569	569	569	569	569	569	569	6,829

Table 7.2

	Year 8 Mine Plan		85 Jan	86 Feb	87 Mar	88 Apr	89 May	90 June	91 July	92 Aug	93 Sept	94 Oct	95 Nov	96 Dec	TOTAL
T-	Module 1	(kgals)								7.09			1404		1017
PA#	Module 2	(kgals)												1	_
Δ.	Module 3	(kgals)												l	.
#	Module 4	(kgals)					**********	*********				***********			.
PA #	Module 5	(kgals)]	- 1
Δ.	Module 6	(kgals)												1	_
	Module 7	(kgals)							~=======	*********					_
帮	Module 8	(kgals)												}	-
PA#	Module 9	(kgals)													_
1 -	Module 10	(kgals)												1	_
	Module 11	(kgals)						•						Ī	- 1
	Module 12	(kgals)								4					-
#	Module 13	(kgals)												1	-
A #	Module 14	(kgals)	38,880												38,880
^	Module 15	(kgals)		38,880	38,880	38,880	38,880								155,520
L	Module 16	(kgals)						38,880	38,880	38,880	38,880				155,520
	Total Production Flow	(kgals)	38,880	38,880	38,880	38,880	38,880	38,880	38,880	38,880	38,880				349,920
	Total Restoration Flow	(kgals)	38,880	38,880	38,880	38,880	38,880	38,880	38,880	38,880	38,880	:	-	-	349,920
	Disposal Wells Capacity	(kgals)	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	129,600
	Production Bleed	(kgals)	389	389	389	389	389	389	389	389	389		_	_	3,499
	Other Effluents	(kgals)	173	173	173	173	173	173	173	173	-			_ []	1,382
	Restoration RO Brine	(kgals)	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9.720	9,720	_		_	87,480
	Rain Direct	(kgals)	39	39	39	39	39	. 39	. 39	39	39	39	39	39	472
	Total	(kgals)	10,321	10,321	10,321	10,321	10,321	10,321	10,321	10,321	10,148	39	39	39	92,833
	Net Disposal Capacity	(kgals)	479	479	479	479	479	479	479	479	652	10,761	10,761	10,761	36,767
	Total Tank Capacity	(kgals)	180	180	180	180	180	180	180	180	180	180	180	180	2,160
	Emergency Capacity	(kgais)	90	90	90	90	90	90	90	90	90	90	90	90	1,080
	Emergency Capacity Available	(kgals)	569	56 9	569	569	569	569	569	569	742	10,851	10,851	10,851	37,847

Table 7.2

	Year 8 Mine Plan		85 Jan	86 Feb	87 Mar	88 aqA	89 Mav	90 June	91 July	92	93	94	95 Nov	96	TOTAL
	Module 1	(kgals)	Jan	reb	IVIAI	Apr	iviay	Jurie	July	Aug	Sept	Oct	NOV	Dec	TOTAL
#	Module 2	(kgals)													
₹	Module 3	(kgals)													
1~	Module 4	(kgals)											**********		. 1
£	Module 5	(kgals)												1	. 1
\\\\\\	Module 6	(kgals)												1	. 1
—	Module 7	(kgals)													- 1
帮	Module 8	(kgals)												1	- 1
PA#	Module 9	(kgals)												- 1	- 1
Δ.	Module 10	(kgals)						•							- 1
1	Module 11	(kgals)												- 1	-
	Module 12	(kgals)								***********					-
#	Module 13	(kgals)													-
¥ d	Module 14	(kgals)	38,880												38,880
1 0.	Module 15	(kgals)		38,880	38,880	38,880	38,880							1	155,520
L	Module 16	(kgals)						38,880	38,880	38,880	38,880				155,520
	Total Production Flow	(Irania)	38,880	38,880	38,880	38,880	38,880	38,880	38,880	20.000	20.000				242 222
	Total Restoration Flow	(kgais) (kgais)	38,880	38,880	38,880	38,880	38,880	38,880	38,880	38,880 38,880	38,880 38,880	•	-	-	349,920
	Total Restolation Flow	(Kyais)	90,000	30,000	00,000	30,000	30,000	30,000	30,000	30,000	30,000	•	•	-	349,920
	Disposal Wells Capacity	(kgals)	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	129,600
	Production Bleed	(kgals)	389	389	389	389	389	389	389	389	389	-	-	-	3,499
	Other Effluents	(kgals)	173	173	173	173	173	173	173	173	•	-	-	-	1,382
	Restoration RO Brine	(kgals)	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	-	-	-	87,480
	Rain Direct	(kgals)	.39	39	39	39	39	39	39	39	39	39	39	39	472
	Total	(kgals)	10,321	10,321	10,321	10,321	10,321	10,321	10,321	10,321	10,148	39	39	39	92,833
	Net Disposal Capacity	(kgals)	479	479	479	479	479	479	479	479	652	10,761	10,761	10,761	36,767
	Total Tank Capacity	(kgals)	180	180	180	180	180	180	180	180	180	180	180	180	2,160
	Emergency Capacity	(kgals)	90	90	90	90	90	90	90	90	90	90	90	90	1,080
	Emergency Capacity Available	(kgals)	569	569	569	569	569	569	569	569	742	10,851	10,851	10,851	37,847

Table 7.2

Year 9	1	97	98	99	100	101	102	103	104	105	106	107	108	
Mine Plan	()	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTAL
Module 1	(kgals)													-
Module 2	(kgals)													-
Module 3 Module 4	(kgals)	~~~~~~~~~~							******	******		********	~~~~	-
1 · · · · · · · · · · · · · · · · · · ·	(kgals)													-
Module 5	(kgals)													-
Module 6	(kgals)													-
Module 7	(kgals)	~~~~~~~~~					********						*********	-
Module 8	(kgals)													-
Module 9	(kgals)													
Module 10	(kgals)													-
Module 11	(kgals)													
Module 12	(kgals)													-
Module 13	(kgals)													_
Module 14	(kgals)													-
Module 15	(kgais)													_
Module 16	(kgals)				*									-
Total Production Flow	(kgals)			_	_	<u> </u>	_	_	_		_			
Total Restoration Flow	(kgals)	-	-	-	-	-	-	-	-	•	-	•	-	-
Disposal Wells Capacity	(kgals)	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	129,600
Production Bleed	(kgals)	-	-		-	-	-		-	•	-	_	_	_
Other Effluents	(kgals)	-	-	-	-	-	-	•	_	_	-	-	_	_
Restoration RO Brine	(kgals)	-	-	-	-	-	-	-	-	-	•	-	-	-
Rain Direct	(kgals)	39	39	39	39	39	39	39	39	39	39	39	39	472
Total	(kgals)	39	39	39	39	39	39	39	39	39	39	39	39	472
Net Disposal Capacity	(kgals)	10,761	10,761	10,761	10,761	10,761	10,761	10,761	10,761	10,761	10,761	10,761	10,761	129,128
Total Tank Capacity	(kgals)	180	180	180	180	180	180	180	180	180	180	180	180	2,160
Emergency Capacity	(kgals)	90	90	90	90	90	90	90	90	90	90	90	90	1,080
Emergency Capacity Available	(kgals)	10,851	10,851	10,851	10,851	10,851	10,851	10,851	10,851	10,851	10,851	10,851	10,851	130,208

Table 7.2

	Year 10 Mine Plan	108	109 Jan	110 Feb	111 Mar	112 Apr	113 May	114 June	115 July	116 Aug	117 Sept	118 Oct	119 Nov	120 Dec	TOTAL
#	Module 1	(kgals)							outy	7,49	ССР		1404	Dec	TOTAL
PA#	Module 2	(kgals)												1	_
<u>_</u>	Module 3	(kgals)													-
21	Module 4	(kgals)	~~~~~						**********		**********				-
PA #2	Module 5	(kgals)												i	-
	Module 6	(kgals)												ŀ	-
	Module 7	(kgals)										~		***************************************	- 1
器	Module 8	(kgals)												ŀ	-
A	Module 9	(kgals)												l	-
_	Module 10	(kgals)												1	- 1
ļ	Module 11	(kgals)						~~~~~~							-
	Module 12	(kgals)]	-
#	Module 13	(kgals)												ľ	-
I₹	Module 14	(kgals)													- 1
-	Module 15	(kgals)												l	-
L	Module 16	(kgals)		Annen		~							~~~~~~~~~		- 1
	Total Production Flow	(1000-100)													1
	Total Restoration Flow	(kgals)	-	•											-
	Total Restoration Flow	(kgals)													-
	Disposal Wells Capacity	(kgals)	10,800	10,800											21,600
	Production Bleed	(kgals)		-											
	Other Effluents	(kgals)	-	-											-
	Restoration RO Brine	(kgals)	-	-											-
	Rain Direct	(kgals)	39	39											79
	Total	(kgals)	39	39											79
	Net Disposal Capacity	(kgals)	10,761	10,761										•	21,521
	Total Tank Capacity	(kgals)	180	180											360
	Emergency Capacity	(kgals)	90	90											180
	Emergency Capacity Available	(kgais)	10,851	10,851											21,701

8.0 Financial Security

According to § 27.073 (a-1), A person to whom an in situ uranium mining injection well, monitoring well, or production well permit is issued shall be required by the commission to maintain a performance bond or other form of financial security to ensure that an abandoned well is properly plugged. Detailed requirements concerning financial surety are given in Title 30 of the Texas Administrative Code ("30 TAC") Chapter 331. According to Subchapter A, § 331.15 Financial Assurance Required, injection is prohibited for Class I and Class III wells which lack financial assurance. Chapter 37, Subchapter Q, § 37,7021 of 30 TAC requires an owner or operator subject to this subchapter to establish financial assurance for plugging and abandonment of Class III wells. Chapter 37, Subchapter Q, Financial Assurance for Underground Injection Control Wells establishes the requirements for demonstrating financial assurance for plugging and abandonment (see 30 TAC § 37.7001). Finally, additional financial assurance requirements are detailed in 30 TAC Subchapter I, §§ 331.142, 331.143 and 331.144. These rules require a permittee to: (1) secure and maintain adequate surety for plugging and abandonment as specified in Chapter 37, Subchapter Q; (2) prepare a plugging and abandonment cost estimate reflecting the period in the operation's life when plugging and abandonment would be most expensive; and (3) maintain the latest cost estimate as prepared under § 331.143(a) during the operational life of the project; and (4) certify and obtain certification from an independent licensed professional engineer or licensed professional geoscientist that plugging and abandonment have been accomplished in accordance with an approved plugging and abandonment plan.

Additionally, at least 60 days prior to drilling wells, UEC will post a form of financial assurance listed in 30 TAC § 37.7021. At this time, UEC anticipates that the surety mechanism would be: (1) a fully funded or pay-in trust; (2) a surety bond guaranteeing payment; (3) a surety bond guaranteeing performance; or (4) an irrevocable standby letter of credit.

During operations, UEC will submit plugging and abandonment cost estimates for the anticipated number of wells needed as the project goes forward. The cost estimate will be in current dollars and will include labor, materials, equipment, supplies and per diem.

For PA-1, it is anticipated that the wells listed in Table 8-1 will be needed. As shown in the table, some of the wells already exist and 7 others are nearing completion to further supplement production zone baseline water quality.

With respect to total depth and casing size, the proposed injectors and extractors will be completed at an average total depth of 194 feet below ground level, and the well casing will be 6 inch diameter PVC. For the existing wells, actual total depths are known, and these depths are summarized in Table 8-2.

Table 8.1 Wells Existing and Planned for PA-1

Injectors/ Extractors	Overlying	Production Zone	Production Zone
	Monitor Wells	Baseline Wells	Monitor Wells
200*	9**	17***	22**

^{*}To be completed.

^{**}Existing

^{***}At this writing, 10 of the 17 planned wells have been completed and sampled. Completion and sampling of 7 additional Sand B wells should be finished in early September.

Table 8.2 Total Depth of Existing Wells in PA-1

	Depth (Feet)	(Depth (Feet)		Depth (Feet)		Depth (Feet)
OMW-1	97	BMW-1	209	BMW-10	194	BMW-19	218
OMW-2	110	BMW-2	206	BMW-11	183	BMW-20	200
OMW-3	106	BMW-3	205	BMW-12	180	BMW-21	206
OMW-4	119	BMW-4	193	BMW-13	188	BMW-22	208
OMW-5	120	BMW-5	204	BMW-14	206		
OMW-6	123	BMW-6	201	BMW-15	210		
OMW-7	119	BMW-7	199	BMW-16	206		
OMW-8	. 119	BMW-8	195	BMW-17	191		
OMW-9	113	BMW-9	197	BMW-18	212		
PTW-1	190						
PTW-2	211						
PTW-3	210	•					
PTW-4	208						
PTW-5	207						
PTW-6	206						
RBLB-1	205						
RBLB-3	220						
RBLB-4	205						
RBLB-5	183						

APPENDIX A LABORATORY REPORTS

Company:

UEC

Identification:

Report Date:

08/29/2008

PAA-1

Work Order No.:

302659_002

Sample Id: Laboratory:

BMW-1 Jordan Laboratories (A Xenco Laboratories Company)

Lab Description: Sample Date/Time:

M46-599 4/24/08 1615

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	ерт	Conductance	%ерт
CALCIUM (Ca) MAGNESIUM (Mg) SODIUM (Na) POTASSIUM (K)	88.20 19.50 104.00 3.14	4.40 1.60 4.52 0.08	228.86 74.73 221.21 5.78	41.49 15.12 42.64 0.76
	TOTAL CATION	10.61		
CARBONATE (CO3) BICARBONATE (HCO3) SULFATE (SO4) CHLORIDE (CI) NITRATE (NO3-N) FLUORIDE (F) SILICA (SIO2)	0.0 350.0 26.0 169.0 <0.01 0.60 16.1	0.00 5.74 0.54 4.77 Conductance:	0.00 250.08 40.00 361.84 1182.50	0.00 51.93 4.90 43.16

					TOTAL ANION
		<u> 1</u>	TOTAL ION	<u> </u>	777
TDS (180 c)					620.0
TDS (total ion - 0.5	HCO3)				601.5
EC (25 c)					1100.0 umhos/cm
EC (DIL) =	97.6	X	12.50	_ =	1220.0 umhos/cm
ALK. as CaCO3					287.0
рH					7.43 Std. Unit

ACCURACY CHECK

ION	0.961
TDS —	1.031
EC	1.032

RANGE 0.96 to 1.04 0.90 to 1.10 0.95 to 1.05

MINOR and TRACE CONSTITUENTS (Group 2)

mg/L
0.006
<0.001
0.196
<0.002
0.022
< 0.0004
<0.010
<0.003
0.013
<0.1

%Cations %Anions 60.0 40.0 Na+K - Cl 20.0 Mg - SO4 Ca - HCO3 %Cation %Anion

RADIATION-PICOCURIES/LITER

11.04

28.0 +/-**RADIUM 226** RADON 222

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = 51.7 NTU Note: Samples are reduced and contain H2S that can lead to a significant increase in turbidity.

Checked by:

Company:

UEC

Report Date:

08/29/2008

Identification:

FLUORIDE (F)

SILICA (SIO2)

PAA-1 BMW-2 Work Order No.: Lab Description: 302659_003 M46-600

Sample Id: Laboratory:

Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

4/24/08 1715

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%epm
CALCIUM (Ca) MAGNESIUM (Mg) SODIUM (Na) POTASSIUM (K)	81.50 17.20 100.80 3.39	4.07 1.41 4.38 0.09	211.48 65.91 214.40 6.24	40.86 14.21 44.05 0.87
	TOTAL CATION	9.95		
CARBONATE (CO3) BICARBONATE (HCO3) SULFATE (SO4) CHLORIDE (CI) NITRATE (NO3-N)	0.0 338.0 15.0 158.0 <0.01	0.00 5.54 0.31 4.46	0.00 241.51 23.08 338.28	0.00 53.73 3.03 43.24

Total Conductance:

10.31

0.60

14.8

TDS (180 c) 575.0 TDS (total ion - 0.5 HCO3) 560.3	<u>vion</u>
· · · ·	
TDS (total ion - 0.5 HCO3) 560.3	
EC (25 c) 1040.0 un	nhos/cm
EC(DIL) = 92.0 X 12.50 = 1150.0 um	nhos/cm
ALK. as CaCO ₃ 277.0	
pH 7.46 Sto	d. Unit

ACCURACY CHECK

1100.91

		<u>RANGE</u>
ION	0.965	0.96 to 1.04
TDS _	1.026	0.90 to 1.10
EC _	1.045	0.95 to 1.05

%Anions

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.007
CADMIUM (Cd)	<0.001
IRON (Fe)	0.061
LEAD (Pb)	< 0.002
MANGANESE (Mn)	0.012
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	<0.010
SELENIUM (Se)	<0.003
URANIUM (U)	0.017
AMMONIA-N (NH3-N)	0.2

·	60.0
	40.0
Na+K-Cl	14.200 \$ 0 20.0
Mg - SO4 Ca - HC0	0.0
	%Cation %Anion

%Cations

RADIATION-PICOCURIES/LITER

RADIUM 226 27.0 +/- 1.0 RADON 222 +/-

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = 7.30 NTU Note: Samples are reduced and contain H2S that can lead to

Checked by:

a significant increase in turbidity.

Company: Identification:

UEC PAA-1 Report Date:

08/29/2008

Sample Id:

PAA-1 BMW-3 Work Order No.: Lab Description: 302659_004 M46-601

Laboratory:

Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

10.91

11.12

4/25/08 0846

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%ерт
CALCIUM (Ca)	105.00	5.24	272.46	48.03
MAGNESIUM (Mg)	18.10	1.49	69.36	13.64
SODIUM (Na)	93.20	4.05	198.24	37.16
POTASSIUM (K)	4.98	0.13	9.17	1.17

TOTAL CATION

CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	317.0	5.20	226.50	46.72
SULFATE (SO4)	61.0	1.27	93.86	11.42
CHLORIDE (CI)	165.0	4.65	353.27	41.86
NITRATE (NO3-N)	<0.01			
FLUORIDE (F)	. 0.60	Total Conductance	1222.86	

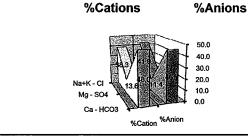
	TOTAL ANION
TOTAL ION	<u>779</u>
	643.0
	620.3
	1090.0 umhos/cm
12.50 =	1210.0 umhos/cm
	260.0
-	7.38 Std. Unit

ACCURACY CHECK

		<u>RANGE</u>
ION	0.981	0.96 to 1.04
TDS	1.037	0.90 to 1.10
EC	0.989	0.95 to 1.05

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.005
CADMIUM (Cd)	<0.001
IRON (Fe)	< 0.030
LEAD (Pb)	<0.002
MANGANESE (Mn)	0.009
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	0.011
SELENIUM (Se)	< 0.003
URANIUM (U)	0.009
AMMONIA-N (NH3-N)	<0.1



RADIATION-PICOCURIES/LITER

RADIUM 226	9.8 +/-	0.3
RADON 222	+/-	

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Checked by:

NTU Note: Samples are reduced and contain H2S that can lead to a significant incre

Company:

UEC

Report Date:

08/29/2008

Identification:

PAA-1

Work Order No.:

302704_001

Sample Id: Laboratory: BMW-4
Jordan Laboratories (A Xenco Laboratories Company)

Lab Description: Sample Date/Time:

M46-605 4/28/08 1035

DANCE

	MAJOR AND	SECONDARY	CONSTITUENTS	Group 1)
--	-----------	-----------	--------------	---------	---

ITEM	mg/L	epm	Conductance	%epm
CALCIUM (Ca) MAGNESIUM (Mg) SODIUM (Na) POTASSIUM (K)	110.00 17.40 97.50 3.17	5.49 1.43 4.24 0.08	285.43 66.68 207.38 5.84	48.83 12.73 37.72 0.72
	TOTAL CATION	N 11.24		
CARBONATE (CO3) BICARBONATE (HCO3) SULFATE (SO4) CHLORIDE (CI) NITRATE (NO3-N)	0.0 320.0 55.0 166.0 <0.01	0.00 5.24 1.15 4.68	0.00 228.65 84.62 355.41	0.00 47.36 10.34 42.29
FLUORIDE (F) SILICA (SIO2)		Cotal Conductance:	<u>1234.01</u>	

				TOTAL ANION
			TOTAL ION	783
1				
DS (180 c)				640.0
TDS (total ion - 0.	5 HCO3)			623.4
EC (25 c)				1100.0 umhos/cm
EC (DIL) =	107.1	X	11.11 =	1189.9 umhos/cm
ALK. as CaCO3				262.0
H				7.35 Std. Unit

ACCURACY CHECK

		KANGE
ION	1.015	0.96 to 1.04
TDS	1.027	0.90 to 1.10
EC	0.964	0.95 to 1.05

%Anions

50.0 40.0 30.0 20.0

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	< 0.002
CADMIUM (Cd)	<0.001
IRON (Fe)	<0.030
LEAD (Pb)	<0.002
MANGANESE (Mn)	0.009
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	<0.010
SELENIUM (Se)	< 0.003
URANIUM (U)	0.006
AMMONIA-N (NH3-N)	<0.1

Na+K - Cl 12.7 10.3 20.0 10.0 Mg - SO4 Ca - HCO3 %Cation %Anion

%Cations

RADIATION-PICOCURIES/LITER

RADIUM 226 RADON 222

<u>11.07</u>

29.0 +/- 1.0

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = 6.75 NTU Note: Samples are reduced and contain H2S that can lead to a significant increase in turbidity.

Checked by:

Company:

UEC

Report Date:

08/29/2008

Identification: Sample Id: PAA-1 BMW-5 Work Order No.: Lab Description: 302704_002 M46-606

Laboratory:

Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

4/28/08 1135

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%ерт
CALCIUM (Ca)	105.00	5.24	272.46	47.57
MAGNESIUM (Mg)	16.60	1.37	63.62	12.39
SODIUM (Na)	99.00	4.31	210.57	39.10
POTASSIUM (K)	4.03	0.10	7.42	0.94

·	TOTAL CATIO	N 11.01		
CARBONATE (CO3)	0.0	0.00		
` ,	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	318.0	5.21	227.22	47.51
SULFATE (SO4)	57.0	1.19	87.70	10.82
CHLORIDE (CI)	162.0	4.57	346.85	41.67
NITRATE (NO3-N)	<0.01			· · · · · · · · · · · · · · · · · · ·
FLUORIDE (F)	0.60	Fotal Conductance:	<u>1215.83</u>	
SILICA (SIO2)	13.2			

				<u>IOTAL ANION</u>
			TOTAL ION	775
TDS (180 c)				638.0
TDS (total ion - 0.	5 HCO3)			616.4
EC (25 c)				1090.0 umhos/cm
EC (DIL) =	106.2	X	11.11 =	= 1179.9 umhos/cm
ALK. as CaCO3		_		261.0
рH				7.44 Std. Unit

ACCURACY CHECK

		<u>RANGE</u>
ION	1.004	0.96 to 1.04
TDS	1.035	0.90 to 1.10
EC	0.970	0.95 to 1.05
EC	0.970	0.95 to

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	< 0.002
CADMIUM (Cd)	< 0.001
IRON (Fe)	0.035
LEAD (Pb)	< 0.002
MANGANESE (Mn)	0.009
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	<0.010
SELENIUM (Se)	< 0.003
URANIUM (U)	0.015
AMMONIA-N (NH3-N)	<0.1

%Cations %Anions Na+K - Cl Mg - SO4 Ca - HCO3 %Cation %Anion %Anions 50.0 40.0 30.0 20.0 10.0 0.0

RADIATION-PICOCURIES/LITER

10.97

RADIUM 226	41.0 +/-	1.0
RADON 222	+/-	

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Tubidity = <1.00 NTU Note: Samples are reduced and contain H2S that can lead to a significant increase in turbidity.

Checked by:

Company:

UEC

Report Date:

08/29/2008

Identification:

PAA-1

Work Order No.:

302704_003

Sample Id: Laboratory: BMW-6
Jordan Laboratories (A Xenco Laboratories Company)

Lab Description: Sample Date/Time:

M46-607 4/28/08 1245

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%ерт
CALCIUM (Ca) MAGNESIUM (Mg)	105.00 16.90	5.24 1.39	272.46 64.76	47.56 12.62
SODIUM (Na)	99.00	4.31	210.57	39.09
POTASSIUM (K)	3.16	0.08	5.82	0.73
	TOTAL CATION	11.02		
CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	310.0	5.08	221.50	46.52
SULFATE (SO4)	57.0	1.19	87.70	10.87
CHLORIDE (CI)	165.0	4.65	353.27	42.62
NITRATE (NO3-N) FLUORIDE (F) SILICA (SIO2)	<0.01 0.60 Total 13.3	l Conductance:	1216.09	

			TOTAL ION		<u>TOTAL ANION</u> <u>770</u>
* }	•				
1 DS (180 c)					640.0
TDS (total ion - 0	.5 HCO3)			_	615.0
EC (25 c)					1090.0 umhos/cm
EC(DIL) =	105.3	_X	11.11	_ = .	1169.9 umhos/cm
ALK. as CaCO3					254.0
рH					7.34 Std. Unit

ACCURACY CHECK

		<u>RANGE</u>
ION	1.009	0.96 to 1.04
TDS	1.041	0.90 to 1.10
EC	0.962	· 0.95 to 1.05

%Anions

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.002
CADMIUM (Cd)	< 0.001
IRON (Fe)	< 0.030
LEAD (Pb)	< 0.002
MANGANESE (Mn)	0.009
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	<0.010
SELENIUM (Se)	0.004
URANIUM (U)	0.002
AMMONIA-N (NH3-N)	<0.1

%Cations

RADIATION-PICOCURIES/LITER

RADIUM 226 RADON 222

10.92

2.9 +/- 0.-

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = <1.00 NTU Note: Samples are reduced and contain H2S that can lead

to a significant increase in turbidity.

Company:

UEC

Report Date:

08/29/2008

Identification: Sample Id: PAA-1 BMW-7 Work Order No.: Lab Description: Sample Date/Time: 302704_004 M46-608

Laboratory:

Jordan Laboratories (A Xenco Laboratories Company)

4/28/08 1400

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	ерт	Conductance	%epm
CALCIUM (Ca) MAGNESIUM (Mg) SODIUM (Na) POTASSIUM (K)	101.00 14.50 100.00 3.34	5.04 1.19 4.35 0.09	262.08 55.57 212.70 6.15	47.25 11.18 40.78 0.80
	TOTAL CATION	10.67		
CARBONATE (CO3) BICARBONATE (HCO3) SULFATE (SO4) CHLORIDE (CI)	0.0 294.0 53.0 166.0	0.00 4.82 1.10 4.68	0.00 210.07 81.55 355.41	0.00 45.44 10.41 44.16
NITRATE (NO3-N) FLUORIDE (F) SILICA (SIO2)	<0.01 0.60 13.2	otal Conductance:	<u>1183.52</u>	

•		-	TOTAL ION		TOTAL ANION 746
TDS (180 c) TDS (total ion - 0.5 EC (25 c)	5 HCO3)				653.0 598.6 1060.0 umhos/cm
EC (DIL) = ALK, as CaCO3 pH	103.5	_ ^X -	11.11	_ =	1149.9 umhos/cm 241.0 7.40 Std. Unit

ACCURACY CHECK

		<u>RANGE</u>
ION	1.006	0.96 to 1.04
TDS	1.091	0.90 to 1.10
EC	0.972	0.95 to 1.05

%Anions

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.002
CADMIUM (Cd)	< 0.001
IRON (Fe)	<0.030
LEAD (Pb)	<0.002
MANGANESE (Mn)	0.007
MERCURY (Hg)	<0.0004
MOLYBDENUM (Mo)	<0.010
SELENIUM (Se)	<0.003
URANIUM (U)	0.004
AMMONIA-N (NH3-N)	<0.1

Na+K - Cl Mg - SO4 Ca - HCO3

%Cations

RADIATION-PICOCURIES/LITER

RADIUM 226 RADON 222

10.60

1.8 +/- 0.1

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Tubidity = 14.0 NTU Note: Samples are reduced and contain H2S that can lead to a significant increase in turbidity.

Company:

UEC

PAA-1

Report Date: Work Order No.:

08/29/2008

Identification:Sample Id:

BMW-8

Lab Description:

302779_001 M46-610

Laboratory:

Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

4/29/08 0925

DANKON

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%ерт
CALCIUM (Ca) MAGNESIUM (Mg) SODIUM (Na) POTASSIUM (K)	103.00 15.50 104.00 3.81	5.14 1.27 4.52 0.10	267.27 59.40 221.21 7.02	46.57 11.55 40.99 0.88
	TOTAL CATION	11.04		

CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	304.0	4.98	217.21	46.78
SULFATE (SO4)	50.0	1.04	76.93	9.78
CHLORIDE (CI)	164.0	4.63	351.13	43.44
NITRATE (NO3-N)	<0.01			
FLUORIDE (F)	0.60	Total Conductance:	<u>1200.17</u>	

FLUORIDE (F)

SILICA (SIO2)

O.60

Total Conductance:
12.3

			TOTAL ION	<u>TOTAL ANION</u>
TDS (180 c) TDS (total ion - 0.5 EC (25 c) EC (DIL) = ALK. as CaCO3 pH	5 HCO3) 104.4	_x	11.11	658.0 605.2 1070.0 umhos/cm = 1159.9 umhos/cm 249.0 7.42 Std. Unit

ACCURACY CHECK

		KANGE
ION .	1.036	0.96 to 1.04
TDS	1.087	0.90 to 1.10
EC	0.966	0.95 to 1.05

%Anions

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	<0.002
CADMIUM (Cd)	<0.001
IRON (Fe)	0.036
LEAD (Pb)	<0.002
MANGANESE (Mn)	0.009
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	<0.010
SELENIUM (Se)	< 0.003
URANIUM (U)	0.003
AMMONIA-N (NH3-N)	<0.1

Na+K - Cl Mg - SO4 Ca - HCO3 %Cation %Anion

%Cations

RADIATION-PICOCURIES/LITER

10.65

RADIUM 226 1.7 +/- 0.1
RADON 222 +/-

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = 5.42 NTU Note: Samples are reduced and contain H2S that can significantly increase turbitity.

Company:

UEC

Report Date:

08/29/2008

Identification:

PAA-1

Jordan Laboratories (A Xenco Laboratories Company)

Work Order No.:

302799_002

Sample Id: Laboratory: BMW-9

Lab Description: Sample Date/Time:

M46-611 4/29/08 1035

MAJOR AND SECONDARY	CONSTITUENTS (Group 1)
MINUOUS MILE SECOMBINES	COLIDER CELLIE (Crowb 1)

ITEM	mg/L	epm	Conductance	%ерт
CALCIUM (Ca)	108.00	5.39	280.24	47.70
MAGNESIÙM (Mg)	15.40	1.27	59.02	11.21
SODIUM (Na)	105.00	4.57	223.34	40.43
POTASSIUM (K)	2.92	0.07	5.38	0.66
CARBONATE (CO3)	TOTAL CATIO	0N 11.30	0.00	0.00
BICARBONATE (HCO3)	321.0	5.26	229.36	47.34
SULFATE (SO4)	48.0	1.00	73.85	8.99
CHLORIDE (CI)	172.0	4.85	368.26	43.66
NITRATE (NO3-N)	0.01	····		
FLUORIDE (F)	0.62	Total Conductance:	<u>1239.44</u>	
SILICA (SIO2)	13.0			

TOTAL ANION

			TOTAL ION	786
** *** **** **** **** **** **** **** ****				
1 DS (180 c)				680.0
TDS (total ion - 0.	5 HCO3)			625.5
EC (25 c)				1100.0 umhos/cm
EC(DIL) =	108.0	X	11.11 =	1199.9 umhos/cm
ALK. as CaCO3				263.0
рH				7.42 Std. Unit

ACCURACY CHECK

		<u>RANGE</u>	
ION	1.017	0.96 to 1.04	
TDS -	1.087	0.90 to 1.10	
EC _	0.968	0.95 to 1.05	

%Anions

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	< 0.002
CADMIUM (Cd)	<0.001
IRON (Fe)	<0.030
LEAD (Pb)	< 0.002
MANGANESE (Mn)	0.032
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	<0.010
SELENIUM (Se)	<0.003
URANIUM (U)	0.188
AMMONIA-N (NH3-N)	<0.1

Na+K - Cl Mg - SO4 Ca - HCO3 %Cation %Anion

%Cations

RADIATION-PICOCURIES/LITER

RADIUM 226 RADON 222

11.11

1.8 +/-	0.1
+/-	

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = 7.40 NTU Note: Samples are reduced and contain H2S that can lead to a significant increase in turbidity.

Company:

UEC

Report Date:

09/03/2008

Identification: Sample Id: PAA-1 Baseline BMW-10 Work Order No.: Lab Description: 302184_001 M46-575

Laboratory:

Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

4/21/08 1245

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%epm
CALCIUM (Ca)	96.00	4.79	249.10	45.38
MAGNESIUM (Mg)	14.60	1.20	55.95	11.38
SODIUM (Na)	103.00	4.48	219.08	42.45
POTASSIUM (K)	3.28	0.08	6.04	0.79

	TOTAL CATIO	N 10.56		
CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	309.0	5.06	220.79	47.97
SULFATE (SO4)	47.0	0.98	72.32	9.27
CHLORIDE (CI)	160.0	4.51	342.57	42.76
NITRATE (NO3-N)	<0.01			
FLUORIDE (F)	0.60	Total Conductance:	<u>1165.84</u>	
SILICA (SIO2)	15.3			

TOTAL ANION TOTAL ION 749 **TDS** (180 c) 610.0 594.3 TDS (total ion - 0.5 HCO3) EC (25 c) 1050.0 umhos/cm EC(DIL) =111.0 10.00 1110.0 umhos/cm 253.0 ALK. as CaCO3 7.88 Std. Unit рH

ACCURACY CHECK

		RANGE	
ION	1.000	0.96 to 1.04	
TDS	1.026	0.90 to 1.10	
EC	0.952	0.95 to 1.05	

%Anions

MINOR and TRACE CONSTITUENTS (Group 2)

mg/L
0.004
<0.001
<0.030
<0.002
0.007
<0.0004
<0.010
< 0.003
<0.001
<0.1

Na+K - Cl Mg - SO4 Ca - HCO3 %Cation %Anion

%Cations

RADIATION-PICOCURIES/LITER

10.56

RADIUM 226	1.5 +/-	0.1
RADON 222	+/-	

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = 23.0 NTU Note: some samples are reduced and contain H2S that may lead to a significant increase in turbidity.

Company:

UEC

Identification:

PAA-1

Sample Id: Laboratory:

BMW-11 Jordan Laboratories (A Xenco Laboratories Company)

Report Date: Work Order No.: 08/29/2008

302184_002 M46-576

Lab Description: Sample Date/Time:

4/21/08 1410

ITEM	mg/L	epm	Conductance	%epm
CALCIUM (Ca) MAGNESIUM (Mg) SODIUM (Na) POTASSIUM (K)	94.90 17.20 106.00 3.75	4.74 1.41 4.61 0.10	246.25 65.91 225.46 6.91	43.62 13.03 42.47 0.88
	TOTAL CATIO	ON 10.86		
CARBONATE (CO3) BICARBONATE (HCO3) SULFATE (SO4) CHLORIDE (CI) NITRATE (NO3-N) FLUORIDE (F) SILICA (SIO2)	0.0 316.0 63.0 168.0 <0.01 0.57 15.8	0.00 5.18 1.31 4.74 Total Conductance:	0.00 225.79 96.93 359.70 1226.95	0.00 46.12 11.68 42.20

				TOTAL ANION
			TOTAL ION	785
				070.0
TDS (180 c)				678.0
TDS (total ion -	0.5 HCO3)			627.2
EC (25 c)				1110.0 umhos/cm
EC (DIL) =	106.4	X	11.11 :	= 1182.1 umhos/cm
ALK. as CaCO	3			2.6
pН				8.18 Std. Unit

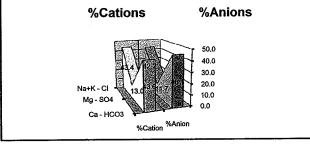
ITEM	mg/L
ARSENIC (As)	0.007
CADMIUM (Cd)	<0.001
IRON (Fe)	< 0.030
LEAD (Pb)	<0.002
MANGANESE (Mn)	0.012
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	< 0.010
SELENIUM (Se)	< 0.003
URANIUM (U)	0.001
AMMONIA-N (NH3-N)	0.2

MINOR and TRACE CONSTITUENTS (Group 2)

11.23 ACCURACY CHECK

ION	0.967
TDS	1.081
EC .	0.963

RANGE 0.96 to 1.04 0.90 to 1.10 0.95 to 1.05



RADIATION-PICOCURIES/LITER

RADIUM 226 RADON 222 1.7 +/-0.1

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = 3.03 NTU Note: Samples are reduced and contain H2S that may lead

Checked by:

to a significant increase in turbidity.

Company:

UEC

Identification:

PAA-1

Report Date:

08/29/2008

Work Order No.:

302184_003

Lab Description:

M46-577

Sample Id: Laboratory: BMW-12

Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

4/21/08 1507

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%ерт
CALCIUM (Ca) MAGNESIUM (Mg) SODIUM (Na) POTASSIUM (K)	98.90 17.90 106.00 3.29	4.94 1.47 4.61 0.08	256.63 68.60 225.46 6.06	44.45 13.26 41.53 0.76
	TOTAL CAT	TION 11.10		
CARBONATE (CO3) BICARBONATE (HCO3) SULFATE (SO4) CHLORIDE (CI) NITRATE (NO3-N) FLUORIDE (F) SILICA (SIO2)	0.0 306.0 89.0 168.0 <0.01 0.55 15.8	0.00 5.01 1.85 4.74 Total Conductance:	0.00 218.64 136.94 359.70 1272.02	0.00 43.21 15.96 40.83

				TOTAL ANION
			TOTAL ION	805
TDS (180 c)				698.0
TDS (total ion - 0.5	5 HCO3)			652.4
EC (25 c)				1140.0 umhos/cm
EC (DIL) =	97.6	X	12.50	= 1220.0 umhos/cm
ALK. as CaCO3		_		251.0
рH				7.89 Std. Unit

ACCURACY CHECK

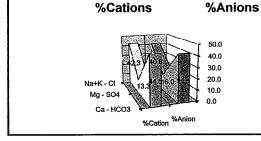
ION	0.957
TDS	1.070
EC	0.959

0.96 to 1.04 0.90 to 1.10 0.95 to 1.05

RANGE

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.007
CADMIUM (Cd)	<0.001
IRON (Fe)	0.050
LEAD (Pb)	< 0.002
MANGANESE (Mn)	0.033
MERCURY (Hg)	<0.0004
MOLYBDENUM (Mo)	<0.010
SELENIUM (Se)	< 0.003
URANIUM (U)	0.008
AMMONIA-N (NH3-N)	<0.1



RADIATION-PICOCURIES/LITER

RADIUM 226 RADON 222

11.61

4.9 +/-

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = 26.1 NTU Note: Samples are reduced and contain H2S that may lead to a significant increase in turbidity

Company: dentification:

Sample Id:

UEC

PAA-1 **BMW-13** Report Date:

11/18/2008

Work Order No.: Lab Description: Sample Date/Time: 302315_001

M46-578 04/22/08 1300

Laboratory:

Jordan Laboratories (A Xenco Laboratories Company)

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%ерт
CALCIUM (Ca)	94.50	4.72	245.21	42.37
MAGNESIUM (Mg)	18.90	1.55	72.43	13.96
SODIUM (Na)	109.00	4.74	231.84	42.60
POTASSIUM (K)	4.66	0.12	8.58	1.07

TOTAL CATION	11.13

Total Conductance:

11.37

CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	321.0	5.26	229.36	46.26
SULFATE (SO4)	70.0	1.46	107.70	12.82
CHLORIDE (Cl)	165.0	4.65	353.27	40.93
NITRATE (NO3-N)	<0.01			

FLUORIDE (F) 0.51 SILICA (SIO2) 17.9

TO	TAL	ANIO	N

801

ACCURACY CHECK

1248.40

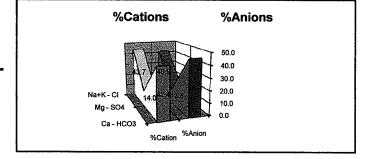
TDS (180 c)			•	658.0	
TDS (total ion - 0.	5 HCO3)			641.0	
EC (25 c)				1130.0	umhos/cm
EC (DIL) =	99.2	X	12.50 =	1240.0	umhos/cm
ALK. as CaCO3				273.0	
pН				7.95	Std. Unit

TOTAL ION

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.011
CADMIUM (Cd)	<0.001
IRON (Fe)	<0.030
LEAD (Pb)	<0.002
MANGANESE (Mn)	0.018
MERCURY (Hg)	<0.0004
MOLYBDENUM (Mo)	0.014
SELENIUM (Se)	< 0.003
URANIUM (U)	0.031
AMMONIA-N (NH3-N)	<0.1

		RANGE
ION	0.979	0.96 to 1.04
TDS	1.027	0.90 to 1.10
EC	0.993	0.95 to 1.05



RADIATION-PICOCURIES/LITER

RADIUM 226	2.4 +/-	0.2
RADON 222	+/-	

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = <1.00 NTU Note: Samples are reduced and contain H2S that may lead to a significant increase in turbidity

Company: dentification: UEC

PAA-1

Sample Id: Laboratory:

ITEM

BMW-14

Jordan Laboratories (A Xenco Laboratories Company)

Report Date:

11/18/2008

0/anm

Work Order No.: 302315_002

Lab Description:

M46-579

Sample Date/Time:

Conductance

04/22/08 1406

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

11 12/14	mg/L	chm	Conductance	жеріп
CALCIUM (Ca)	99.00	4.94	256.89	44.45
MAGNESIUM (Mg)	18.50	1.52	70.90	13.69
SODIUM (Na)	105.00	4.57	223.34	41.09
POTASSIUM (K)	3.33	0.09	6.13	0.77
	TOTAL CATION	11.11		
CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	333.0	5.46	237.94	47.73
SULFATE (SO4)	73.0	1.52	112.32	13.29

mø/L

BICARBONATE (HCO3)	333.0	5.46	237.94	47.73
SULFATE (SO4)	73.0	1.52	112.32	13.29
CHLORIDE (CI)	158.0	4.46	338.28	38.98
NITRATE (NO3-N)	<0.01	***************************************		
FLUORIDE (F)	0.60	Total Conductance:	<u>1245.79</u>	

TOTAL ANION

SILICA (SIO2) 17.4

11.43

enm

TOTAL ION 808 **ACCURACY CHECK**

TDS (180 c)	645.0
TDS (total ion - 0.5 HCO3)	641.3
EC (25 c)	1130.0 umhos/cm
EC (DIL) = 95.2 X 12.50 =	1190.0 umhos/cm
ALK. as CaCO3	272.0
pH	7.84 Std. Unit

ION 0.972 1.006 **TDS** EC 0.955

0.96 to 1.04 0.90 to 1.10 0.95 to 1.05

RANGE

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.008
CADMIUM (Cd)	<0.001
IRON (Fe)	<0.030
LEAD (Pb)	<0.002
MANGANESE (Mn)	0.021
MERCURY (Hg)	<0.0004
MOLYBDENUM (Mo)	<0.010
SELENIUM (Se)	0.006
URANIUM (U)	0.001
AMMONIA-N (NH3-N)	<0.1

%Cations %Anions 50.0 40.0 30.0 20.0 10.0 Mg - SO4 Ca - HCO3 %Cation

RADIATION-PICOCURIES/LITER

RADIUM 226 RADON 222 1.5 +/-0.1

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = 1.36 NTU Note: Samples are reduced and contain H2S that may lead

Checked by:

to a significant increase in turbidity

Company:

UEC

lentification: Sample Id:

Laboratory:

PAA-1

Jordan Laboratories (A Xenco Laboratories Company)

BMW-15

Report Date:

11/18/2008

Work Order No.: Lab Description:

Sample Date/Time:

302315_003

M46-580

04/22/2008 00:00

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%ерт
CALCIUM (Ca)	<u> </u>	4.94	256.63	44.41
MAGNESIUM (Mg)	18.00	1.48	68.98	13.32
SODIUM (Na)	106.00	4.61	225.46	41.49
POTASSIUM (K)	3.34	0.09	6.15	0.77
	 			

TOTAL	CATION	11.11

CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	332.0	5.44	237.22	47.19
SULFATE (SO4)	73.0	1.52	112.32	13.18
CHLORIDE (CI)	162.0	4.57	346.85	39.63
NITRATE (NO3-N)	<0.01			

FLUORIDE (F) 0.57 SILICA (SIO2) 18.0

> **TOTAL ANION** 11.53

Total Conductance:

TOTAL ION 812

ACCURACY CHECK

1253.61

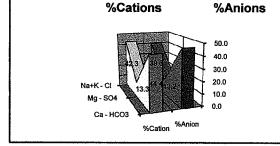
TDS (180 c)	705.0
TDS (total ion - 0.5 HCO3)	645.8
EC (25 c)	1130.0 umhos/cm
EC (DIL) = 96.0 X 12.50	= 1200.0 umhos/cm
ALK. as CaCO3	272.0
pН	7.85 Std. Unit

,				1130.0	umhos/cm
96.0	_ X	12.50	:= <u></u>	1200.0	umhos/cm
				272.0	

		<u>RANGE</u>
ION	0.964	0.96 to 1.04
TDS	1.092	0.90 to 1.10
EC	0.957	0.95 to 1.05

MINOR and TRACE CONSTITUENTS (Group 2)

mg/L
0.006
<0.001
<0.030
<0.002
0.021
<0.0004
<0.010
<0.003
0.001
<0.1



RADIATION-PICOCURIES/LITER

RADIUM 226 **RADON 222**

0.9 +/-	0.1
+/-	

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = 1.26 NTU Note: Samples are reduced and contain H2S that may lead to a significant increase in turbidity.

GROUND WATER ANALYSIS REPORT - IN SITU URANIUM MINING UEC Report Date: 11/18/2008 Company: lentification: PAA-1 Work Order No.: 302326 001 **BMW-16** Sample Id: Lab Description: M46-592 Laboratory: Jordan Laboratories (A Xenco Laboratories Company) Sample Date/Time: 04/23/2008 00:00 MAJOR AND SECONDARY CONSTITUENTS (Group 1) **ITEM** mg/L epm Conductance %epm CALCIUM (Ca) 81.60 4.07 211.74 38.56 16.60 1.37 63.62 12.93 **MAGNESIUM (Mg)** SODIUM (Na) 115.00 5.00 244.61 47.37 POTASSIUM (K) 4.69 0.12 8.64 1.14 TOTAL CATION 10.56 **CARBONATE (CO3)** 0.0 0.00 0.00 0.00 **BICARBONATE (HCO3)** 301.0 4.93 215.07 45.40 **SULFATE (SO4)** 56.0 10.73 1.17 86.16 169.0 **CHLORIDE (CI)** 4.77 361.84 43.87 NITRATE (NO3-N) < 0.01 FLUORIDE (F) 0.52 **Total Conductance:** 1191.66 16.2 SILICA (SIO2) **TOTAL ANION** 10.87 TOTAL ION 761 ACCURACY CHECK **RANGE TDS** (180 c) 643.0 ION 0.972 0.96 to 1.04 TDS (total ion - 0.5 HCO3) 610.1 **TDS** 1.054 0.90 to 1.10 EC (25 c) 1090.0 umhos/cm EC 0.957 0.95 to 1.05 EC(DIL) =114.0 10.00 1140.0 umhos/cm ALK. as CaCO3 247.0 8.05 Std. Unit Ha

%Cations	%Anions
Na+K - Cl Mg - SO4 Ca - HCO3 %Cation %Anion	50.0 40.0 30.0 20.0 10.0

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.008
CADMIUM (Cd)	<0.001
IRON (Fe)	<0.030
LEAD (Pb)	<0.002
MANGANESE (Mn)	0.015
MERCURY (Hg)	<0.0004
MOLYBDENUM (Mo)	0.035
SELENIUM (Se)	<0.003
URANIUM (U)	0.007
AMMONIA-N (NH3-N)	<0.1

RADIATION-PICOCURIES/LITER

1.9 +/-0.1 **RADIUM 226 RADON 222**

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = <1.00 NTU Note: Smaples are reduced and contain H2S that may lead to a significant increase in turbidity.

Company:

UEC

entification:

Laboratory:

SILICA (SIO2)

PAA-1

Jordan Laboratories (A Xenco Laboratories Company)

Sample Id: BMW-17

Report Date: Work Order No.: Lab Description: 11/18/2008 302326_002

M46-593

Sample Date/Time:

4/23/08 1330

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%ерт
CALCIUM (Ca)	94.90	4.74	246.25	41.91
MAGNESIUM (Mg)	17.40	1.43	66.68	12.66
SODIUM (Na)	116.00	5.05	246.73	44.66
POTASSIUM (K)	3.38	0.09	6.22	0.77
•				

	IUIALCA	110N 11.30		
CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	346.0	5.67	247.22	49.56
SULFATE (SO4)	55.0	1.15	84.62	10.01
CHLORIDE (CI)	164.0	4.63	351.13	40.43
NITRATE (NO3-N)	<0.01			
FLUORIDE (F)	0.60	Total Conductance:	<u>1248.87</u>	

18.1

TOTAL ION 11.44

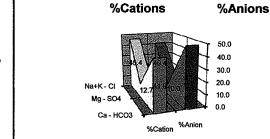
TOTAL ION 815 ACCURACY CHECK

TDS (180 c)				685.0	
TDS (total ion - 0.5	HCO3)			642.4	
EC (25 c)				1140.0	umhos/cm
EC (DIL) =	99.2	X	12.50	= 1240.0	umhos/cm
ALK. as CaCO3				284.0	
pН				7.49	Std. Unit

		<u>RANGE</u>	
ION	0.987	0.96 to 1.04	
TDS	1.066	0.90 to 1.10	
EC	0.993	0.95 to 1.05	

MINOR and TRACE CONSTITUENTS (Group 2)

mg/L
0.006
<0.001
<0.030
<0.002
0.026
<0.0004
<0.010
< 0.003
0.002
<0.1



RADIATION-PICOCURIES/LITER

RADIUM 226 RADON 222 1.5 +/-+/-

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = 1.85 NTU Note: Samples are reduced and contain H2S that may lead to a significant increase in turbidity

Company:

UEC

Report Date:

08/29/2008

'dentification: Sample Id:

PAA-1 BMW-18 Work Order No.: Lab Description: 302430_001 M46-594

Laboratory:

SILICA (SIO2)

Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

4/24/08 0915

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%ерт
CALCIUM (Ca)	88.30	4.41	229.12	39.24
MAGNESIUM (Mg)	17.90	1.47	68.60	13.11
SODIUM (Na)	120.00	5.22	255.24	46.48
POTASSIUM (K)	5.13	0.13	9.45	1.17
• •		-		

	TOTAL CATION	11.23		
CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	325.0	5.33	232.22	47.19
SULFATE (SO4)	56.0	1.17	86.16	10.33
CHLORIDE (CI)	170.0	4.80	363.98	42.48
NITRATE (NO3-N)	<0.01			
FLUORIDE (F)	0.55	Total Conductance:	<u>1244.77</u>	

18.1

TOTAL ANION TOTAL ION 801 **TDS** (180 c) 658.0 TDS (total ion - 0.5 HCO3) 638.5 1130.0 umhos/cm EC (25 c) 1250.0 umhos/cm EC(DIL) =100.0 12.50 ALK. as CaCO3 266.0 7.46 Std. Unit рH

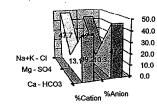
ACCURACY CHECK

		<u>RANGE</u>
ION	0.995	0.96 to 1.04
TDS	1.031	0.90 to 1.10
EC	1.004	0.95 to 1.05

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.004
CADMIUM (Cd)	<0.001
IRON (Fe)	< 0.030
LEAD (Pb)	<0.002
MANGANESE (Mn)	0.010
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	<0.010
SELENIUM (Se)	< 0.003
URANIUM (U)	0.005
AMMONIA-N (NH3-N)	<0.1

%Cations %Anions



RADIATION-PICOCURIES/LITER

11.29

RADIUM 226 1.8 +/- 0.1 RADON 222 +/-

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = 1.07 NTU Note: Samples are reduced and contain H2S that can lead to

Checked by:

a significant increase in turbidity

Company:

UEC

Report Date:

08/29/2008

Identification:

PAA-1

Work Order No.:

302430_002

Sample Id:

BMW-19

Lab Description:

M46-595

Laboratory:

Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

4/24/08 1045

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%ерт
CALCIUM (Ca)	94.50	4.72	245.21	42.78
MAGNESIUM (Mg)	18.20	1.50	69.75	13.58
SODIUM (Na)	108.00	4.70	229.72	42.62
POTASSIUM (K)	4.42	0.11	8.14	1.03
	TOTAL CATION	11.02		
CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	320.0	5.24	228.65	46.05
SULFATE (SO4)	62.0	1.29	95.39	11.34
CHLORIDE (CI)	172.0	4.85	368.26	42.61
NITRATE (NO3-N)	<0.01			
FLUORIDE (F)	0.53 Total C	Conductance:	<u>1245.11</u>	
SILICA (SIO2)	17.9			

7.50 Std. Unit

					TOTAL ANION
			TOTAL ION		798
ì	•				
DS (180 c)					655.0
TDS (total ion - 0	.5 HCO3)			_	637.6
EC (25 c)	•			_	1130.0 umhos/cm
EC(DIL) =	100.8	X	12.50	=	1260.0 umhos/cm
ALK. as CaCO3				-	262.0

ION 0.968 1.027 **TDS** EC 1.012

11.39

RANGE 0.96 to 1.04 0.90 to 1.10 0.95 to 1.05

MINOR and TRACE CONSTITUENTS (Group 2)

	~
ITEM	mg/L
ARSENIC (As)	0.006
CADMIUM (Cd)	<0.001
IRON (Fe)	<0.030
LEAD (Pb)	<0.002
MANGANESE (Mn)	0.012
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	0.012
SELENIUM (Se)	0.003
URANIUM (U)	0.008
AMMONIA-N (NH3-N)	<0.1

%Anions %Cations 40.0 30.0 Na+K - CI Mg - SO4 Ca - HCO3 %Cation %Anion

RADIATION-PICOCURIES/LITER

RADIUM 226 RADON 222

ACCURACY CHECK

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

рH

Turbidity = 6.40 NTU Note: Samples are reduced and contain H2S that can lead to a significant increase in turbidity

Company:

UEC

Report Date:

08/29/2008

Identification: Sample Id:

PAA-1 **BMW-20** Work Order No.: Lab Description: 302430_003 M46-569

Laboratory:

Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

4/24/08 1205

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%ерт
CALCIUM (Ca)	90.20	4.50	234.05	42.16
MAGNESIUM (Mg)	18.00	1.48	68.98	13.86
SODIUM (Na)	106.00	4.61	225.46	43.19
POTASSIUM (K)	3.31	0.08	6.10	0.79
				

TOTAL CATION

				
CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	314.0	5.15	224.36	46.46
SULFATE (SO4)	64.0	1.33	98.47	12.03
CHLORIDE (CI)	163.0	4.60	348.99	41.51
NITRATE (NO3-N)	<0.01			
FLUORIDE (F)	0.65	Total Conductance:	<u>1206.41</u>	
SILICA (SIO2)	17.0			

			TOTAL ION	<u>TOTAL ANION</u> <u>776</u>
TDS (180 c) TDS (total ion - 0.5 EC (25 c) EC (DIL) = ALK. as CaCO3 pH	98.4	_x	12.50 =	635.0 619.2 1100.0 umhos/cm 1230.0 umhos/cm 257.0 7.50 Std. Unit

MINOR and TRACE CONSTITUENTS (Group 2)

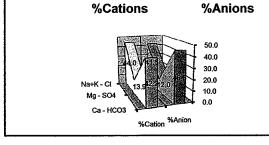
ITEM	mg/L
ARSENIC (As)	0.069
CADMIUM (Cd)	<0.001
IRON (Fe)	0.037
LEAD (Pb)	<0.002
MANGANESE (Mn)	0.050
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	0.481
SELENIUM (Se)	<0.003
URANIUM (U)	0.057
AMMONIA-N (NH3-N)	<0.1

11.08

10.68

ACCURACY CHECK

		RANGE
ION	0.964	0.96 to 1.04
TDS	1.026	0.90 to 1.10
EC	1.020	0.95 to 1.05
_		



RADIATION-PICOCURIES/LITER

RADIUM 226	40.0 +/-	1.0
RADON 222	+/-	

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = 5.53 Note: Samples are reduced and contain H2S that can lead to a significant increase in turbidity

Company:

UEC

Report Date:

08/29/2008

Identification:

PAA-1

Work Order No.:

302430_004

Sample Id:

BMW-21

Lab Description:

M46-597

Laboratory:

Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

4/24/08 1325

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	ерт	Conductance	%ерт
CALCIUM (Ca) MAGNESIUM (Mg) SODIUM (Na) POTASSIUM (K)	95.30 19.60 107.00 4.00	4.76 1.61 4.65 0.10	247.29 75.11 227.59 7.37	42.75 14.49 41.84 0.92
	TOTAL CATION	11.12		
CARBONATE (CO3) BICARBONATE (HCO3) SULFATE (SO4) CHLORIDE (CI) NITRATE (NO3-N)	0.0 317.0 63.0 166.0 <0.01	0.00 5.20 1.31 4.68	0.00 226.50 96.93 355.41	0.00 46.43 11.72 41.85
FLUORIDE (F) SILICA (SIO2)		Conductance:	1236.20	

TOTAL ANION

	•	TOTAL ION	790
1DS (180 c)			
TDS (total ion - 0.5 HC	O3)		631.7
EC (25 c)			1120.0 umhos/cm
EC(DIL) = 10	0.0 X	12.50	= 1250.0 umhos/cm
ALK. as CaCO3			260.0
pH			7.28 Std. Unit

ACCURACY CHECK

		<u>RANGE</u>
ION	0.994	0.96 to 1.04
TDS	1.029	0.90 to 1.10
EC	1.011	0.95 to 1.05
~~		

%Anions

MINOR and TRACE CONSTITUENTS (Group 2)

ITĖM	mg/L
ARSENIC (As)	0.009
CADMIUM (Cd)	<0.001
IRON (Fe)	0.063
LEAD (Pb)	<0.002
MANGANESE (Mn)	0.019
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	0.048
SELENIUM (Se)	0.004
URANIUM (U)	0.029
AMMONIA-N (NH3-N)	<0.1

Na+K - Cl 14.5 117 20.0 20.0 10.0 0.0 %Cation %Anion

%Cations

RADIATION-PICOCURIES/LITER

11.19

RADIUM 226 34.0 +/RADON 222 +/-

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = 17.4 NTU Note: Samples are reduced and contain H2S that can lead to a significant increase in turbidity.

Company:

UEC

Report Date:

08/29/2008

dentification:

PAA-1 BMW-22 Work Order No.: Lab Description: 302659_001 M46-598

Sample Id: Laboratory:

FLUORIDE (F)

SILICA (SIO2)

Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

4/24/08 1455

DANCE

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%ерт
CALCIUM (Ca)	95.80	4.78	248.58	43.18
MAGNESIUM (Mg)	20.00	1.64	76.64	14.86
SODIUM (Na)	104.00	4.52	221.21	40.86
POTASSIUM (K)	4.80	0.12	8.84	1.11
	TOTAL CATION	11.07		
CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	312.0	5.11	222.93	44.80
SULFATE (SO4)	75.0	1.56	115.40	13.68
CHLORIDE (CI)	168.0	4.74	359.70	41.52
NITRATE (NO3-N)	<0.01			

0.57

17.1

÷)			TOTAL ION	<u>TOTAL ANION</u>
TDS (180 c) TDS (total ion - (25 c) EC (DIL) =	0.5 HCO3) 102.4	X	12.50 =	668.0 641.3 1140.0 umhos/cm 1280.0 umhos/cm
ALK. as CaCO3		-^^		256.0 7.30 Std. Unit

AL ANION <u>11.41</u>

Total Conductance:

ACCURACY CHECK

1253.30

		KANGE
ION	0.970	0.96 to 1.04
TDS	1.042	0.90 to 1.10
EC	1.021	0.95 to 1.05

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.007
CADMIUM (Cd)	<0.001
IRON (Fe)	< 0.030
LEAD (Pb)	<0.002
MANGANESE (Mn)	0.011
MERCURY (Hg)	<0.0004
MOLYBDENUM (Mo)	<0.010
SELENIUM (Se)	<0.003
URANIUM (U)	0.030
AMMONIA-N (NH3-N)	<0.1

%Anions

Na+K-Cl
Mg-SO4
Ca-HCO3

%Cation

%Anion

50.0
40.0
30.0
20.0
10.0
0.0

RADIATION-PICOCURIES/LITER

RADIUM 226	22.0 +/-	1.0
RADON 222	+/-	

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = 7.97 Note: Samples are reduced and contain H2S that can lead to a significant increase in turbidity.

Company:

UEC

Identification:

PAA-1

Report Date:

08/28/2008

Sample Id:

Jordan Laboratories (A Xenco Laboratories Company)

Work Order No.: Lab Description: 302799_003

Laboratory:

PTW-1

Sample Date/Time:

M46-612 4/29/08 1300

RANGE

%Anions

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%ерт
CALCIUM (Ca)	87.00	4.34	225.75	41.57
MAGNESIUM (Mg)	11.30	0.93	43.30	8.90
SODIUM (Na)	117.00	5.09	248.86	48.73
POTASSIUM (K)	3.29	0.08	6.06	0.81
	TOTAL CATION	10.44		
CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	322.0	5.28	230.08	48.37
SULFATE (SO4)	47.0	0.98	72.32	8.97
CHLORIDE (CI)	165.0	4.65	353.27	42.66
NITRATE (NO3-N)	<0.01			
FLUORIDE (F)	0.79 <u>Total</u>	Conductance:	<u>1179.63</u>	
SILICA (SIO2)	12.1			

				TOTAL ANION
		TOTAL ION		765
TDC (190 a)				F00 0
TDS (180 c)			_	593.0
TDS (total ion - 0.5 HCO3	5)		_	604.5
EC (25 c)			_	1000.0 umhos/cm
EC(DIL) = 114.	0X	10.00	_ =	1140.0 umhos/cm
ALK. as CaCO3				264.0
pН			_	7.32 Std. Unit

10.91

ACCURACY CHECK

•		<u>RANGE</u>
ION	0.957	0.96 to 1.04
TDS	0.981	0.90 to 1.10
EC	0.966	0.95 to 1.05

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.008
CADMIUM (Cd)	<0.001
IRON (Fe)	0.031
LEAD (Pb)	<0.002
MANGANESE (Mn)	0.012
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	0.136
SELENIUM (Se)	<0.003
URANIUM (U)	0.032
AMMONIA-N (NH3-N)	<0.1

50.0 40.0 30.0 Mg - SO4 Ca - HCO3 %Cation

%Cations

RADIATION-PICOCURIES/LITER

RADIUM 226 17.0 +/-**RADON 222**

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = 41.6 NTU Note: Samples are reduced and contain H2S that can lead to a significant increase in turbidity.

Company: Identification:

UEC

PAA-1

Report Date: Work Order No.:

08/29/2008

Sample Id: Laboratory:

PTW-2
Jordan Laboratories (A Xenco Laboratories Company)

Lab Description: Sample Date/Time: 302799_004 M46-613 4/29/08 1510

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%ерт
CALCIUM (Ca)	90.00	4.49	233.53	43.64
MAGNESIUM (Mg)	10.90	0.90	41.77	8.71
SODIUM (Na)	110.00	4.78	233.97	46.49
POTASSIUM (K)	4.68	0.12	8.62	1.16
				,

	TOTAL CATIO	DN 10.29		
CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	251.0	4.11	179.34	40.86
SULFATE (SO4)	61.0	1.27	93.86	12.62
CHLORIDE (CI)	166.0	4.68	355.41	46.52
NITRATE (NO3-N)	0.02			
FLUORIDE (F)	0.67	Total Conductance:	<u>1146.51</u>	
SILICA (SIO2)	13.5			

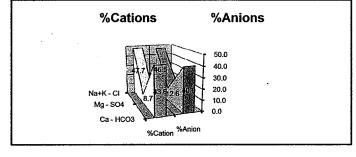
					TOTAL ANION
			TOTAL ION		708
- v					
TDS (180 c)					620.0
TDS (total ion - 0.:	5 HCO3)				582.3
EC (25 c)					1020.0 umhos/cm
EC (DIL) =	110.0	_X	10.00	_ =	1100.0 umhos/cm
ALK. as CaCO3					206.0
pН					7.55 Std. Unit

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.010
CADMIUM (Cd)	< 0.001
IRON (Fe)	0.017
LEAD (Pb)	<0.002
MANGANESE (Mn)	0.006
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	0.070
SELENIUM (Se)	< 0.003
URANIUM (U)	0.009
AMMONIA-N (NH3-N)	<0.1

10.07 ACCURACY CHECK

		<u>RANGE</u>		
ION	1.022	0.96 to	1.04	
TDS	1.065	0.90 to	1.10	
EC	0.959	0.95 to	1.05	



RADIATION-PICOCURIES/LITER

RADIUM 226 17.0 + RADON 222 +

17.0 +/-+/-

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = 3.82 NTU Note: Samples are reduced and contain H2S that can lead to a significant increase in turbidity.

Company: Identification:

SILICA (SIO2)

UEC
PAA-1 baseline
PTW-3

Report Date:Work Order No.:
Lab Description:

08/29/2008 303655_001

Sample Id: Laboratory:

Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

M46-655 5/8/08 1545

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%ерт
CALCIUM (Ca)	110.00	5.49	285.43	48.38
MAGNESIUM (Mg)	17.50	1.44	67.06	12.68
SODIUM (Na)	100.00	4.35	212.70	38.33
POTASSIUM (K)	2.69	0.07	4.95	0.61
	TOTAL CATION	11.35		

CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	346.0	5.67	247.22	50.22
SULFATE (SO4)	45.0	0.94	69.24	8.30
CHLORIDE (CI)	166.0	4.68	355.41	41.48
NITRATE (NO3-N)	0.02			
FLUORIDE (F)	0.65	Total Conductance:	1242.02	

14.5

TOTAL ANION TOTAL ION 802 **TDS** (180 c) 640.0 TDS (total ion - 0.5 HCO3) 629.4 EC (25 c) 1120.0 umhos/cm EC(DIL) =112.5 11.11 1249.9 umhos/cm ALK. as CaCO3 284.0 7.35 Std. Unit pH

ACCURACY CHECK

		RANGE
ION	1.005	0.96 to 1.04
TDS	1.017	0.90 to 1.10
EC	1.006	0.95 to 1.05

%Anions

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.007
CADMIUM (Cd)	<0.001
IRON (Fe)	0.063
LEAD (Pb)	<0.002
MANGANESE (Mn)	0.025
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	<0.010
SELENIUM (Se)	<0.003
URANIUM (U)	0.009
AMMONIA-N (NH3-N)	<0.1

Na+K - Cl Mg - SO4 Ca - HCO3 %Anion

%Cations

RADIATION-PICOCURIES/LITER

11.29

RADIUM 226 38.0 +/- 1.0 RADON 222 +/-

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = 15.5 NTU Note: Samples are reduced and contain H2S that can lead to a significant increase in turbidity.

Company:

UEC

Report Date:

09/03/2008

Identification: Sample Id: PAA-1 Baseline PTW-4 Work Order No.: Lab Description: 303655_003

Laboratory:

Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

M46-657 5/8/08 1800

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

mg/L	epm	Conductance	%epm
109.00	5.44	282.83	47.69
15.10	1.24	57.87	10.89
106.00	4.61	225.46	40.42
4.48	0.11	8.25	1.00
		· · · · · · · · · · · · · · · · · · ·	
	109.00 15.10 106.00	109.00 5.44 15.10 1.24 106.00 4.61	109.00 5.44 282.83 15.10 1.24 57.87 106.00 4.61 225.46

	TOTAL CATIO	N 11.41		
CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	338.0	5.54	241.51	49.18
SULFATE (SO4)	50.0	1.04	76.93	9.24
CHLORIDE (CI)	166.0	4.68	355.41	41.58
NITRATE (NO3-N)	0.05			
FLUORIDE (F)	0.62	Total Conductance:	<u>1248.27</u>	
SILICA (SIO2)	14.3			

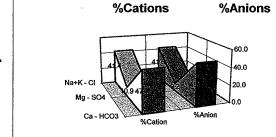
					TOTAL ANION
		,	TOTAL ION	1	804
t.					
TDS (180 c)					638.0
TDS (total ion - 0	0.5 HCO3)			•	634.6
EC (25 c)				-	1120.0 umhos/cm
EC (DIL) =	113.4	X	11.11	=	1259.9 umhos/cm
ALK. as CaCO3					277.0
рH				-	7.37 Std. Unit

ACCURACY CHECK

		<u>RANGE</u>
ION	1.013	0.96 to 1.04
TDS	1.005	0.90 to 1.10
EC	1.009	0.95 to 1.05

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.009
CADMIUM (Cd)	<0.001
IRON (Fe)	<0.030
LEAD (Pb)	<0.002
MANGANESE (Mn)	0.015
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	0.043
SELENIUM (Se)	< 0.003
URANIUM (U)	0.059
AMMONIA-N (NH3-N)	<0.1



RADIATION-PICOCURIES/LITER

11.26

RADIUM 226	196.0 +/-	1.0
RADON 222	+/-	

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

marks:

Turbidity = 13.2 NTU Note: Samples are reduced and contain H2S that can lead to a significant increase in turbidity.

Company:

UEC

Report Date:

08/29/2008

%epm

Identification:

ITEM

PAA-1 Baseline PTW-5 Work Order No.: Lab Description: 303693_001 M46-659

Sample Id: Laboratory:

Jordan Laboratories (A Xenco Laboratories Company)

mg/L

Sample Date/Time:

Conductance

epm

10.81

5/12/08 1215

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

	•	•		_
CALCIUM (Ca) MAGNESIUM (Mg) SODIUM (Na) POTASSIUM (K)	104.00 15.90 98.10 2.48	5.19 1.31 4.27 0.06	269.86 60.93 208.66 4.57	47.93 12.08 39.41 0.59
	TOTAL CATION	10.83		
CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	360.0	5.90	257.23	54.57
SULFATE (SO4)	11.0	0.23	16.92	2.12
CHLORIDE (CI)	166.0	4.68	355.41	43.31
NITRATE (NO3-N)	<0.01			
FLUORIDE (F)	0.57 <u>Total (</u>	Conductance:	<u>1173.58</u>	
SILICA (SIO2)	13.6			

	TOTAL ION	772
TDS (180 c) TDS (total ion - 0.5 HCO3) EC (25 c) EC (DIL) = 105.3	X <u>11.11</u> =	623.0 591.7 1070.0 umhos/cm 1169.9 umhos/cm 295.0 7.32 Std. Unit

ACCURACY CHECK

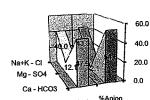
		<u>RANGE</u>
ION	1.002	0.96 to 1.04
TDS	1.053	0.90 to 1.10
EC	0.997	0.95 to 1.05

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.002
CADMIUM (Cd)	<0.001
IRON (Fe)	< 0.030
LEAD (Pb)	0.002
MANGANESE (Mn)	0.008
MERCURY (Hg)	<0.0004
MOLYBDENUM (Mo)	<0.010
SELENIUM (Se)	<0.003
URANIUM (U)	0.005
AMMONIA-N (NH3-N)	<0.1

%Cations

%Anions



%Cation %Anion

RADIATION-PICOCURIES/LITER

RADIUM 226	357.0 +/-	2.0
RADON 222	+/-	

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = 5.06 NTU Note: Samples are reduced and contain H2S that can lead to a significant increase in turbidity.

Company:

UEC

Report Date:

08/29/2008

dentification:

PAA-1 Baseline PTW-6 Work Order No.: Lab Description: 303693_003 M46-661

Sample Id: Laboratory:

Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

5/12/08 1420

DANGE

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

mg/L	epm	Conductance	%ерт
106.00	5.29	275.05	47.41
16.50	1.36	63.23	12.16
102.00	4.44	216.96	39.77
2.84	0.07	5.23	0.65
TOTAL CATION	11.16		
0.0	0.00	0.00	0.00
	106.00 16.50 102.00 2.84 TOTAL CATION	106.00 5.29 16.50 1.36 102.00 4.44 2.84 0.07 TOTAL CATION 11.16 0.0 0.00	106.00 5.29 275.05 16.50 1.36 63.23 102.00 4.44 216.96 2.84 0.07 5.23 TOTAL CATION 11.16 0.0 0.00 0.00

CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	344.0	5.64	245.79	50.61
SULFATE (SO4)	38.0	0.79	58.47	7.10
CHLORIDE (Cl)	167.0	4.71	357.55	42.29
NITRATE (NO3-N)	<0.01			
FLUORIDE (F)	0.57	Total Conductance:	<u>1222.28</u>	
SILICA (SIO2)	14.2			

TOTAL ANION TOTAL ION 791 **TDS** (180 c) 620.0 TDS (total ion - 0.5 HCO3) 619.1 EC (25 c) 1110.0 umhos/cm 1230.0 umhos/cm EC(DIL) =12.50 98.4 X ALK. as CaCO3 282.0 7.30 Std. Unit pН

ACCURACY CHECK

		KANOE
ION	1.001	0.96 to 1.04
TDS	1.001	0.90 to 1.10
EC	1.006	0.95 to 1.05

%Anions

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	< 0.002
CADMIUM (Cd)	<0.001
IRON (Fe)	<0.030
LEAD (Pb)	0.004
MANGANESE (Mn)	0.013
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	<0.010
SELENIUM (Se)	<0.003
URANIUM (U)	0.010
AMMONIA-N (NH3-N)	<0.1

Na+K - Cl Mg - SO4 Ca - HCO3 %Cation %Anion

%Cations

RADIATION-PICOCURIES/LITER

11.14

RADIUM 226 202.0 +/- 1.0 RADON 222 +/-

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

emarks:

Turbidity = <1.00 NTU Note: Samples are reduced and contain H2S that can lead to a significant increase in turbidity.

Client:

Uranium Energy Corp

Project:

Weesatche Baseline Sampling

Lab ID:

C07070627-002

Client Sample ID: RBLB-1

Report Date: 08/01/07
Collection Date: 07/12/07 11:45
DateReceived: 07/13/07
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	272	mg/L		1		A2320 B	07/23/07 08:37 / bas
Carbonate as CO3	ND	mg/L		1		A2320 B	07/23/07 08:37 / bas
Bicarbonate as HCO3	332	mg/L		1		A2320 B	07/23/07 08:37 / bas
Calcium	100	mg/L		0.5		E200.7	07/26/07 15:43 / ts
Chloride	161	mg/L		1		A4500-CI B	07/18/07 11:26 / jl
Fluoride	0.7	mg/L		0.1		A4500-F C	07/23/07 12:30 / bas
Magnesium	19.0	mg/L		0.5		E200.7	07/26/07 15:43 / ts
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	07/17/07 15:32 / ljl
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.1		E353.2	07/16/07 15:42 / jal
Potassium	6.6	mg/L		0.5		E200.7	07/26/07 15:43 / ts
Silica	32.2	mg/L		0.1		E200.7	07/26/07 15:43 / ts
Sodium	98.3	mg/L		0.5		E200.7	07/26/07 15:43 / ts
Sulfate	82	mg/L	D	2		A4500-SO4 E	07/17/07 11:12 / zd
PHYSICAL PROPERTIES				•			,
Conductivity	1160	umhos/cm		1.0		A2510 B	07/16/07 14:55 / ml
pH	7.43	s.u.		0.01		A4500-H B	07/16/07 14:55 / pal.
Solids, Total Dissolved TDS @ 180 C	644	mg/L		10		A2540 C	07/16/07 15:16 / ml
METALS - DISSOLVED							
Arsenic	0.006	mg/L		0.001		E200.8	07/28/07 01:22 / bws
Cadmium	ND	mg/L		0.01		E200.8	07/28/07 01:22 / bws
Iron	ND	mg/L		0.03		E200.7	07/26/07 15:43 / ts
Lead	ND	mg/L		0.05		E200.8	07/28/07·01:22 / bws
Manganese	0.02	mg/L		0.01		E200.8	07/28/07 01:22 / bws
Mercury	ND	mg/L		0.001		E200.8	07/28/07 01:22 / bws
Molybdenum	ND	mg/L		0.1		E200.8	07/28/07 01:22 / bws
Selenium	0.001	mg/L		0.001		E200.8	07/28/07 01:22 / bws
Uranium	0.0615	mġ/L		0.0003		E200.8	07/28/07 01:22 / bws
RADIONUCLIDES - DISSOLVED							
Radium 226	393	pCi/L		0.2		E903.0	07/24/07 16:15 / trs
Radium 226 precision (±)	5.7	pCi/L		0.2		E903.0	07/24/07 16:15 / trs
DATA QUALITY							
	0.10	9/				Ostantakan	07/00/07 40 50 (1
A/C Balance (± 5)	-3.18 11.7	% mag/l				Calculation	07/28/07 12:58 / bws
Anions	11.7	meq/L				Calculation	07/28/07 12:58 / bws
Cations	11.0	meq/L	-			Calculation	07/28/07 12:58 / bws
Solids, Total Dissolved Calculated	663	mg/L				Calculation	07/28/07 12:58 / bws
TDS Balance (0.80 - 1.20)	0.970	deć. %				Calculation	07/28/07 12:58 / bws

Report Definitions:

RL - Analyte reporting limit.

QCL - Quality control limit.

N-Rt increased due to sample matrix interference

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.

Client:

Uranium Energy Corp

Project:

Weesatche Baseline Sampling

Lab ID:

C07070627-001

Client Sample ID: RBLB-3

Report Date: 08/01/07 Collection Date: 07/12/07 10:30 DateReceived: 07/13/07

Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	QCL MCL/	Method	Analysis Date / B
MAJOR IONS		<u> </u>					
Alkalinity, Total as CaCO3	253	mg/L		1		A2320 B	07/23/07 08:37 / bas
Carbonate as CO3	3	mg/L		t		A2320 B	07/23/07 08:37 / bas
Bicarbonate as HCO3	302	mg/L		1		A2320 B	07/23/07 08:37 / ba
Calcium	91.2	mg/L		0.5		E200.7	07/26/07 15:39 / ts
Chloride	163	mg/L		1		A4500-Cl B	07/18/07 11:25 / jl
Fluoride	0.7	mg/L		0.1		A4500-F C	07/23/07 12:27 / ba
Magnesium	15.8	mg/L		0.5		E200.7	07/26/07 15:39 / ts
Nitrogen, Ammonia as N	0.05	mg/L		0.05		A4500-NH3 G	07/17/07 15:30 / ljl
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.1		E353.2	07/16/07 15:39 / jai
Potassium	8.9	mg/L		0.5		E200.7	07/26/07 15:39 / ts
Polassium Silica	31.6	mg/L		0.1		E200.7	07/26/07 15:39 / ts
Silica Sodium	95.3	mg/L		0.5		E200.7	07/26/07 15:39 / ts
Sulfate	41	mg/L		1		A4500-SO4 E	07/17/07 11:09 / zd
PHYSICAL PROPERTIES							
Conductivity	1070	umhos/cm		1.0		A2510 B	07/16/07 14:53 / ml
оН	7.79	s.u.		0.01		A4500-H B	07/16/07 14:53 / ml
Solids, Total Dissolved TDS @ 180 C	614	mg/L		10		A2540 C	07/16/07 15:16 / ml
METALS - DISSOLVED							
Arsenic	0.030	mg/L		0.001		E200.8	07/28/07 01:16 / bw
Cadmium	ND	mg/L		0.01			07/28/07 01:16 / bw
Iron	ND	mg/L		0.03		E200.7	07/26/07 15:39 / ts
Lead	ND	mg/L		0.05		E200.8	07/28/07 01:16 / bw
Manganese	0.02	mg/L		0.01		E200.8	07/28/07 01:16 / bw
Mercury	ND	mg/L		0.001		E200.8	07/28/07 01:16 / by
Molybdenum	ND	mg/L		0.1		E200.8	07/28/07 01:16 / by
Selenium	0.002	mg/L		0.001		E200.8	07/28/07 01:16 / by
Uranium	0.0797	mg/L	•	0.0003		E200.8	07/28/07 01:16 / by
RADIONUCLIDES - DISSOLVED							
Radium 226	111	ρCi/L		0.2		E903.0	07/24/07 16:15 / trs
Radium 226 precision (±)	3.9	pCi/L				E903.0	07/24/07 16:15 / trs
DATA QUALITY							
A/C Balance (±5)	-1.40	%				Calculation	07/28/07 12:57 / by
Anions	10.5	meq/L				Calculation	07/28/07 12:57 / by
Cations	10.2	meq/L				Calculation	07/28/07 12:57 / b
Solids, Total Dissolved Calculated	599	mg/L				Calculation	07/28/07 12:57 / by
TDS Balance (0.80 - 1.20)	1.03	dec. %				Calculation	07/28/07 12:57 / bi

Report Definitions: QCL - Quality control limit.

RL - Analyte reporting limit.

MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

Client:

Uranium Energy Corp

Project:

Weesatche Baseline Sampling

Lab ID:

C07070563-004

Client Sample ID: RBLB-4 DP

Report Date: 08/01/07
Collection Date: 07/11/07 15:03

DateReceived: 07/12/07 Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCQ3	266	mg/L		1		A2320 B	07/17/07 09:37 / 11
Carbonate as CO3	ND	mg/L		. 1		A2320 B	07/17/07 09:37 / lil
Bicarbonate as HCO3	325	mg/L		1		A2320 B	07/17/07 09:37 / lil
Calcium	101	mg/L		0.5		E200.7	07/18/07 17:07 / ts
Chloride	150	mg/L		1		A4500-CI B	07/13/07 18:07 / jl
Fluoride	0.7	mg/L		0.1		A4500-F C	07/13/07 14:24 / bas
Magnesium	20.2	mg/L		0.5		E200.7	07/18/07 17:07 / ts
Nitrogen, Ammonia as N	0.08	mg/L		0.05		A4500-NH3 G	07/18/07 10:41 / jal
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.1		E353.2	07/13/07 13:19 / lji
Potassium	7.1	mg/L		0.5		E200,7	07/18/07 17:07 / ts
Silica	32.0	mg/L		0.1		E200.7	07/18/07 17:07 / ts
Sodium	99.7	mg/L		0.5		E200.7	07/18/07 17:07 / ts
Sulfate	69	mg/L	D	2		A4500-SO4 E	07/13/07 12:57 / zd
PHYSICAL PROPERTIES							
Conductivity	1140	umhos/cm	•	1.0		A2510 B	07/13/07 14:56 / ml
pH	7.54	s.u.		0.01		A4500-H B	07/13/07 14:56 / ml
Solids, Total Dissolved TDS @ 180 C	666	mg/L		10		A2540 C	07/13/07 16:19 / ml
METALS - DISSOLVED							•
Arsenic	0.004	mg/L		0.001		E200.8	07/17/07 05:17 / bws
Cadmium	ND	mg/L	•	0.01		E200.8	07/17/07 05:17 / bws
lron	ND	mg/L	_	0.03		E200.7	07/18/07 17:07 / ts
Lead	ND	mg/L		0.05		E200.8	07/17/07 05:17 / bws
Manganese	ND	mg/L		0.01		E200.8	07/17/07 05:17 / bws
Mercury	ND	mg/L		0.001		E200.8	07/17/07 05:17 / bws
Molybdenum	ND	mg/L		0.1		E200.8	07/17/07 05:17 / bws
Selenium	0.001	mg/L		0.001		E200.8	07/17/07 05:17 / bws
Uranium	0.0060	mg/L	:	0.0003		E200.8	07/17/07 05:17 / bws
RADIONUCLIDES - DISSOLVED		:					•
Radium 226	37,2	pCi/L		0.2		E903.0	07/23/07 14:02 / crw
Radium 226 precision (±)	2.1	pCi/L		0.2		E903.0	07/23/07 14:02 / crw
DATA QUALITY							
	4.04	0/				0.1.1.1	ARIJA (F
VC Balance (± 5)	1.01	%					07/19/07 17:09 / bws
Anions	11.0	meq/L					07/19/07 17:09 / bws
Cations	11.2	meq/L					07/19/07 17:09 / bws
Solids, Total Dissolved Calculated	639	mg/L					07/19/07 17:09 / bws
TDS Balance (0.80 - 1.20)	1.04	dec. %				Calculation	07/19/07 17:09 / bws

Report Definitions:

RL - Analyte reporting limit. QCL - Quality control limit. MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.

Client:

Uranium Energy Corp

Project:

Weesatche Baseline Sampling

Lab ID:

C07070627-003

Client Sample ID: RBLB-5

Report Date: 08/01/07

Collection Date: 07/12/07 12:50

DateReceived: 07/13/07

Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS			<u> </u>	<u> </u>			
Alkalinity, Total as CaCO3	279	mg/L		1		A2320 B	07/23/07 08:37 / bas
Carbonate as CO3	ND	mg/L		1		A2320 B	07/23/07 08:37 / bas
Bicarbonate as HCO3	340	mg/L		1		A2320 B	07/23/07 08:37 / bas
Calcium	88.2	mg/L		0.5		E200.7	07/26/07 15:46 / ts
Chloride	163	rng/L		. 1		A4500-CI B	07/18/07 11:27 / ji
Fluoride	0.8	mg/L		0.1		A4500-F C	07/23/07 12:32 / bas
Magnesium	16.5	mg/L		0.5		E200.7	07/26/07 15:46 / ts
Nitrogen, Ammonia as N	0.06	mg/L		0.05		A4500-NH3 G	07/17/07 15:34 / [[]
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.1		E353.2	07/16/07 15:52 / jal
Potassium	4.4	mg/L		0.5		E200.7	07/26/07 15:46 / ts
Silica	31.6	mg/L		0.1		E200.7	07/26/07 15:46 / ts
Sodium	93.8	mg/L		0.5		E200.7	07/26/07 15:46 / ts
Sulfate	9	mg/L		1		A4500-SO4 E	07/17/07 11:16 / zd
PHYSICAL PROPERTIES							
Conductivity	1050	umhos/cm		1.0		A2510 B	07/16/07 14:58 / mi
pH	7.63	s.u.		0.01		A4500-H B	07/16/07 14:58 / ml
Solids, Total Dissolved TDS @ 180 C	584	mg/L	•	10		A2540 C	07/16/07 15:16 / ml
METALS - DISSOLVED							
Arsenic	0.009	mg/L		0.001		E200.8	07/28/07 03:11 / bws
Cadmium	ND	mg/L		0.01		E200,8	07/28/07 03:11 / bws
Iron	ND	mg/L		0.03		E200.7	07/26/07 15:46 / ts
Lead	ND	mg/L		0.05		E200.8	07/28/07 03:11 / bws
Manganese	0.02	mg/L		0.01		E200.8	07/28/07 03:11 / bws
Mercury	ND	mg/L		0.001		E200.8	07/28/07 03:11/ bws
Molybdenum	ND	mg/L		0.1		E200.8	07/28/07 03:11 / bws
Selenium	0.001	mg/L		0.001		€200.8	07/28/07 03:11 / bws
Uranium	0.0600	mg/L	(0.0003		E200.8	07/28/07 03:11 / bws
RADIONUCLIDES - DISSOLVED							
Radium 226	1090	p'Ci/L		0.2		E903.0	07/24/07 16:15 / trs
Radium 226 precision (±)	9.6	pCi/L		V.Z.		E903.0	07/24/07 16:15 / trs
DATA QUALITY							
A/C Balance (±5)	-2.12	%				Colouletin	07/00/07 40:50 //
Anions						Calculation	07/28/07 12:58 / bws
	10.4	meq/L				Calculation	07/28/07 12:58 / bws
Cations Solido Total Dissolved Calculated	9.97	meq/L					07/28/07 12:58 / bws
Solids, Total Dissolved Calculated	575	mg/L					07/28/07 12:58 / bws
TDS Balance (0.80 - 1.20)	1.02	dec. %				Calculation	07/28/07 12:58 / bws

Report Definitions:

RL - Analyte reporting limit. QCL - Quality control limit. MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.

Company:

UEC

Report Date:

08/29/2008

Identification: Sample Id:

SILICA (SIO2)

PAA-1 OMW-1 Work Order No.: Lab Description: 303433_002 M46-645

Laboratory:

Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

5/7/2008 1330

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%ерт
CALCIUM (Ca) MAGNESIUM (Mg)	<u>125.00</u> 15.30	6.24 1.26	324.35 58.63	51.43 10.37
SODIUM (Na)	105.00	4.57	223.34	37.66
POTASSIUM (K)	2.58	0.07	4.75	0.54
	TOTAL CATION	12.13		
CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	307.0	5.03	219.36	44.22
SULFATE (SO4)	103.0	2.14	158.48	18.85
CHLORIDE (CI)	149.0	4.20	319.02	36.94
NITRATE (NO3-N)	6.50			
FLUORIDE (F)	<u>0.47</u> <u>T</u>	otal Conductance:	<u>1307.92</u>	

16.1

				TOTAL ANION
			TOTAL ION	830
TDS (180 c)				673.0
TDS (total ion - 0	.5 HCO3)			676.5
EC (25 c)				1170.0 umhos/cm
EC(DIL) =	105.6	_X	12.50 =	1320.0 umhos/cm
ALK. as CaCO3				252.0
pН			•	7.35 Std. Unit

ACCURACY CHECK

		<u>RANGE</u>
ION	1.066	0.96 to 1.04
TDS	0.995	0.90 to 1.10
EC	1.009	0.95 to 1.05

%Anions

MINOR and TRACE CONSTITUENTS (Group 2)

mg/L
0.021
<0.001
<0.030
0.002
0.007
<0.0004
0.024
0.007
0.006
<0.1

Na+K - CI Mg - SO4 Ca - HCO3

%Cations

RADIATION-PICOCURIES/LITER

11.38

RADIUM 226 0.5 +/- 0.1
RADON 222 +/-

%Cation %Anion

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

`emarks:

Turbidity = 1.55 NTU Note: Samples are reduced and contain H2S that can lead to a significant increase in turbidity.

Company:

UEC

Report Date: Work Order No.: 08/29/2008

'dentification: Sample Id:

PAA-1 OMW-2

Lab Description:

303654_001 M46-653

Laboratory:

SILICA (SIO2)

Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

5/8/08 1030

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%ерт
CALCIUM (Ca)	212.00	10.58	550.10	59.45
MAGNESIUM (Mg)	23.60	1.94	90.44	10.91
SODIUM (Na)	120.00	5.22	255.24	29.33
POTASSIÙM (K)	2.14	0.05	3.94	0.31
	TOTAL CATION	17.79		
CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	339.0	5.56	242.22	32.92
SULFATE (SO4)	167.0	3.48	256.95	20.60
CHLORIDE (CI)	278.0	7.84	595.21	46.47
NITRATE (NO3-N)	5.60			
FLUORIDE (F)	0.39 <u>To</u>	tal Conductance:	<u>1994.10</u>	

18.7

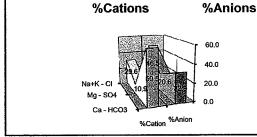
			TOTAL ION		TOTAL ANION 1166
TDS (180 c) TDS (total ion - 0.5 EC (25 c) EC (DIL) = ALK. as CaCO3 pH	HCO3) 99.5	_x	20.00	· - -	1040.0 996.9 1690.0 umhos/cm 1990.0 umhos/cm 278.0 7.21 Std. Unit

16.87 ACCURACY CHECK

		RANGE
ION	1.054	0.96 to 1.04
TDS -	1.043	0.90 to 1.10
EC	0.998	0.95 to 1.05

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.018
CADMIUM (Cd)	<0.001
IRON (Fe)	<0.030
LEAD (Pb)	<0.002
MANGANESE (Mn)	0.003
MERCURY (Hg)	<0.0004
MOLYBDENUM (Mo)	<0.010
SELENIUM (Se)	0.010
URANIUM (U)	0.008
AMMONIA-N (NH3-N)	<0.1



RADIATION-PICOCURIES/LITER

RADIUM 226 RADON 222

0.9 +/-	0.1
+/-	

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = 1.42 NTU Note: Samples are reduced and contain H2S that can lead to a significant increase in turbidity

Company:

UEC

Report Date:

08/29/2008

Identification: Sample Id: PAA-1 OMW-3 Work Order No.: Lab Description: 303433_001 M46-644

> 1.04 1.10

1.05

Laboratory:

Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

5/7/08 1155

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%ерт
CALCIUM (Ca) MAGNESIUM (Mg) SODIUM (Na) POTASSIUM (K)	140.00 16.20 91.00 1.88	6.99 1.33 3.96 0.05	363.27 62.08 193.56 3.46	56.68 10.81 32.12 0.39
	TOTAL CATION	12.32		
CARBONATE (CO3) BICARBONATE (HCO3) SULFATE (SO4) CHLORIDE (CI) NITRATE (NO3-N)	0.0 351.0 108.0 146.0 3.90	0.00 5.75 2.25 4.12	0.00 250.80 166.17 312.59	0.00 47.46 18.55 33.98
FLUORIDE (F) SILICA (SIO2)	0.51 <u>Total C</u>	Conductance:	<u>1351.94</u>	٠

			TOTAL ION	877
TDS (180 c) TDS (total ion - 0. EC (25 c) EC (DIL) = ALK. as CaCO3 pH	5 HCO3) 109.6	_ ^X .	12.50	748.0 701.4 1190.0 umhos/cm 1370.0 umhos/cm 288.0 7.31 Std. Unit

<u>AL ANION</u> 12.12 877 <u>ACCURACY CHECK</u>

		RANC
ION	1.017	0.96 to
TDS _	1.066	0.90 to
EC _	1.013	0.95 to

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.013
CADMIUM (Cd)	<0.001
IRON (Fe)	<0.030
LEAD (Pb)	< 0.002
MANGANESE (Mn)	< 0.003
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	<0.010
SELENIUM (Se)	0.010
URANIUM (U)	0.009
AMMONIA-N (NH3-N)	<0.1

%Cations %Anions Na+K-CI Mg-SO4 Ca-HCO3 %Cation %Anion

RADIATION-PICOCURIES/LITER

RADIUM 226	0.8 +/-	0.1
RADON 222	+/-	

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

emarks:

Turbidity = <1.00 NTU Note: Samples are reduced and contain H2S that can lead to a significant increase in turbidity.

Company:

UEC

ntification:

PAA-1 Baseline

Report Date: Work Order No.: 08/29/2008

dentification: Sample Id:

OMW-4

Lab Description:

303693_002 M46-660

Laboratory:

FLUORIDE (F) SILICA (SIO2) Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

5/12/08 1235

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%epm
CALCIUM (Ca)	250.00	12.48	648.70	62.22
MAGNESIUM (Mg)	29.00	2.38	111.13	11.89
SODIUM (Na)	118.00	5.13	250.99	25.60
POTASSIUM (K)	2.29	0.06	4.22	0.29
	TOTAL CATION	20.05		
CARBONATE (CO3)	0.0_	0.00	0.00	0.00
BICARBONATE (HCO3)	342.0	5.60	244.37	28.36
SULFATE (SO4)	168.0	3.50	258.49	17.70
CHLORIDE (CI)	378.0	10.66	809.31	53.95
NITRATE (NO3-N)	7.60			

0.36

21.4

					TOTAL ANION
		<u>1</u>	OTAL ION	. <u> </u>	1317
TDS (180 c)					1180.0
TDS (total ion -	0.5 HCO3)			_	1145.7
EC (25 c)	ŕ				1940.0 umhos/cm
EC (DIL) =	114.0	X	20.00	=	2280.0 umhos/cm
ALK. as CaCO	3				280.0
рĦ				_	7.23 Std. Unit
				_	

19.77

Total Conductance:

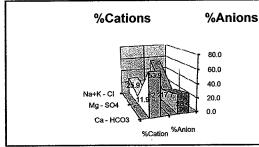
ACCURACY CHECK

2327.21

		RANGE	
ION	1.014	0.96 to 1.04	
TDS	1.030	0.90 to 1.10	
EC _	0.980	0.95 to 1.05	

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.019
CADMIUM (Cd)	< 0.001
IRON (Fe)	< 0.030
LEAD (Pb)	< 0.002
MANGANESE (Mn)	0.008
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	<0.010
SELENIUM (Se)	0.009
URANIUM (U)	0.013
AMMONIA-N (NH3-N)	<0.1



RADIATION-PICOCURIES/LITER

RADIUM 226 6.0 +/- 0.2 RADON 222 +/-

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

emarks:

Turbidity = 6.96 NTU Note: Samples are reduced and contain H2S that can lead to a significant increase in turbidity.

Company:

UEC

Identification:

SILICA (SIO2)

PAA-1 Baseline

Report Date: Work Order No.: 08/29/2008

Sample Id:

OMW-5

Lab Description:

303693_004 M46-662

Laboratory:

Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

5/12/08 1520

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	ерт	Conductance	%ерт
CALCIUM (Ca)	130.00	6.49	337.33	55.48
MAGNESIUM (Mg)	12.50	1.03	47.90	8.79
SODIUM (Na)	95.00	4.13	202.07	35.34
POTASSIUM (K)	1.78	0.05	3.28	0.39
				

	TOTAL CATIO	N 11.69		
CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	346.0	5.67	247.22	50.04
SULFATE (SO4)	47.0	0.98	72.32	8.64
CHLORIDE (CI)	166.0	4.68	355.41	41.32
NITRATE (NO3-N)	4.20			
FLUORIDE (F)	0.51	Total Conductance:	1265,52	

18.8

		TOTAL ION	TOTAL ANION 822
TDS (180 c) TDS (total ion - 0.5 EC (25 c) EC (DIL) = ALK. as CaCO3 pH	 _x	12.50 =	663.0 648.8 1150.0 umhos/cm 1290.0 umhos/cm 284.0 7.30 Std. Unit

11.33 **ACCURACY CHECK**

		<u>RANGE</u>
ION	1.032	0.96 to 1.04
TDS	1.022	0.90 to 1.10
EC _	1.019	0.95 to 1.05

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.010
CADMIUM (Cd)	<0.001
IRON (Fe)	< 0.030
LEAD (Pb)	0.003
MANGANESE (Mn)	< 0.003
MERCURY (Hg)	< 0.004
MOLYBDENUM (Mo)	<0.010
SELENIUM (Se)	< 0.003
URANIUM (U)	0.008
AMMONIA-N (NH3-N)	<0.1

Na+K - Cl Mg - SO4 Ca - HCO3
Ca - HCO3 %Cation %Anion

RADIATION-PICOCURIES/LITER

RADIUM 226	3.6 +/-	0.2
RADON 222	+/-	

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = <1.00 NTU Note: Samples are reduced and contain H2S that can lead to a significant increase in turbidity.

Company:

UEC

Report Date:

08/29/2008

'dentification:

PAA-1 Baseline

Work Order No.:

303731_001

Sample Id: Laboratory:

SILICA (SIO2)

OMW-6

Lab Description: Sample Date/Time:

M46-667 5/12/08 1745

Jordan Laboratories (A Xenco Laboratories Company) MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%epm
CALCIUM (Ca)	310.00	15.47	804.39	64.49
MAGNESIUM (Mg)	32.40	2.66	124.16	11.11
SODIUM (Na)	133.00	5.79	282.89	24.12
POTASSIUM (K)	2.60	0.07	4.79	0.28
, ,				

	TOTAL CATION	23.99		
CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	299.0	4.90	213.64	21.27
SULFATE (SO4)	80.0	1.67	123.09	7.23
CHLORIDE (CI)	584.0	16.47	1250.37	71.50
NITRATE (NO3-N)	8.20			
FLUORIDE (F)	0.37	Total Conductance:	2803.34	

20.3

			TOTAL ION	. .	TOTAL ANION 1470
TDS (180 c) TDS (total ion - 0.5 EC (25 c) EC (DIL) = ALK. as CaCO3 pH	5 HCO3)	_x	28.57	_ = .	1340.0 1320.4 2450.0 umhos/cm 2859.9 umhos/cm 245.0 6.98 Std. Unit

	RANGE
1.041	0.96 to 1.04
1.015	0.90 to 1.10
1.020	0.95 to 1.05

23.04

ION TDS

EC

%Cations %Anions

ACCURACY CHECK

80.0 Na+K - Cl Mg - SO4 Ca-HCO3 %Cation %Anion

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM .	mg/L
ARSENIC (As)	0.026
CADMIUM (Cd)	< 0.001
IRON (Fe)	< 0.030
LEAD (Pb)	< 0.002
MANGANESE (Mn)	0.011
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	0.013
SELENIUM (Se)	0.012
URANIUM (U)	0.014
AMMONIA-N (NH3-N)	<0.1

RADIATION-PICOCURIES/LITER

0.1 RADIUM 226 RADON 222

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = <1.00 NTU Note: Samples are reduced and contain H2S that can lead to a significant increase in turbidity.

Company:

UEC

Report Date:

08/29/2008

Identification:

PAA-1 OMW-7 Work Order No.: Lab Description: 303654_002 M46-654

Sample Id: Laboratory:

Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

5/8/08 1345

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

mg/L	epm	Conductance	%ерт
114.00	5.69	295.81	56.21
9.22	0.76	35.33	7.49
83.40	3.63	177.39	35.84
1.82	0.05	3.35	0.46
TOTAL CATION	10.12		
	9.22 83.40 1.82	114.00 5.69 9.22 0.76 83.40 3.63 1.82 0.05	114.00 5.69 295.81 9.22 0.76 35.33 83.40 3.63 177.39 1.82 0.05 3.35

CARBONATE (CO ₃)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	307.0	5.03	219.36	48.54
SULFATE (SO4)	53.0	1.10	81.55	10.65
CHLORIDE (CI)	150.0	4.23	321.16	40.82
NITRATE (NO3-N)	1.90			
FLUORIDE (F)	0.62	Total Conductance:	<u>1133.95</u>	

TOTAL ANION

739

0.62 FLUORIDE (F) SILICA (SIO2) 17.6

<u>10.37</u>	
	ACCURACY CHECK

1				•	
TDS (180 c)					615.0
TDS (total ion - 0	.5 HCO3)				585.1
EC (25 c)					1040.0 umhos/cm
EC (DIL) =	102.6	\mathbf{X}	11.11	=	1139.9 umhos/cm
ALK. as CaCO3					252.0
pН					7.39 Std. Unit

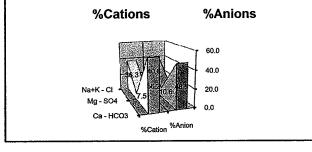
TOTAL ION

		0.0.0	
		585.1	
		1040.0	umhos/cm
11.11	=	1139.9	umhos/cm
		252.0	
		7.00	a

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.014
CADMIUM (Cd)	0.001
IRON (Fe)	<0.030
LEAD (Pb)	<0.002
MANGANESE (Mn)	0.006
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	<0.010
SELENIUM (Se)	<0.003
URANIUM (U)	0.008
AMMONIA-N (NH3-N)	<0.1

		RANGE
ION	0.976	0.96 to 1.04
TDS	1.051	0.90 to 1.10
EC	1.005	0.95 to 1.05



RADIATION-PICOCURIES/LITER

0.8 +/-**RADIUM 226** RADON 222

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

emarks:

Turbidity = 4.28 NTU Note: Samples are redcuced and contain H2S that can lead to a significant increase in turbidity.

Company:

UEC

Report Date:

08/29/2008

dentification:

PAA-1 Baseline OMW-8 Work Order No.: Lab Description: 303655_004 M46-658

Sample Id: Laboratory:

Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

5/8/08 1905

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM	mg/L	epm	Conductance	%epm
CALCIUM (Ca)	170.00	8.48	441.12	55.11
MAGNESIUM (Mg)	14.00	1.15	53.65	7.48
SODIUM (Na)	131.00	5.70	278.64	37.02
POTASSIUM (K)	2.34	0.06	4.31	0.39
	TOTAL CATION	15.39		
CARBONATE (CO3)	0.0	0.00	0.00	0.00
BICARBONATE (HCO3)	370.0	6.06	264.37	41.15
SULFATE (SO4)	86.0	1.79	132.32	12.15
CHLORIDE (CI)	244.0	6.88	522.41	46.70
NITRATE (NO3-N)	4.00		· · · · · · · · · · · · · · · · · · ·	
FLUORIDE (F)	0.47 <u>Total</u>	Conductance:	<u>1696.83</u>	
SILICA (SIO2)	17.3			

			TOTAL ANION
	TOTAL ION		1039
			955.0
		_	854.1
		_	1480.0 umhos/cm
X	16.67	,= _	1690.3 umhos/cm
_			303.0
		_	7.19 Std. Unit
		TOTAL ION X 16.67	

ACCURACY CHECK

		<u>RANGE</u>
ION	1.044	0.96 to 1.04
TDS	1.118	0.90 to 1.10
EC	0.996	0.95 to 1.05

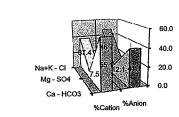
MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.031
CADMIUM (Cd)	< 0.001
IRON (Fe)	<0.030
LEAD (Pb)	< 0.002
MANGANESE (Mn)	0.015
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	< 0.010
SELENIUM (Se)	0.006
URANIUM (U)	0.009
AMMONIA-N (NH3-N)	<0.1

%Cations

<u>14.74</u>

%Anions



RADIATION-PICOCURIES/LITER

RADIUM 226	4.8 +/-	0.2
RADON 222	+/-	

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

emarks:

Turbidity = 11.9 NTU Note: Samples are reduced and contain H2S that can lead to a significant increas in turbidity.

Company:

UEC

Identification:

PAA-1 Baseline

Report Date: Work Order No.:

08/29/2008

Sample Id:

OMW-9

Lab Description:

303655_002 M46-656

Laboratory:

Jordan Laboratories (A Xenco Laboratories Company)

Sample Date/Time:

5/8/08 1640

MAJOR AND SECONDARY CONSTITUENTS (Group 1)

ITEM .	mg/L	epm	Conductance	%ерт
CALCIUM (Ca) MAGNESIUM (Mg) SODIUM (Na) POTASSIUM (K)	208.00 16.40 110.00 2.05	10.38 1.35 4.78 0.05	539.72 62.85 233.97 3.77	62.66 8.14 28.88 0.32
	TOTAL CATIO	ON 16.57		
CARBONATE (CO3) BICARBONATE (HCO3) SULFATE (SO4) CHLORIDE (CI) NITRATE (NO3-N) FLUORIDE (F) SILICA (SIO2)	0.0 316.0 79.0 296.0 5.40 0.36	0.00 5.18 1.64 8.35 Total Conductance:	0.00 225.79 121.55 633.75	0.00 34.13 10.84 55.03

					TOTAL.	<u>ANION</u>
			TOTAL ION		1049	
TDS (180 c)					925.0	
TDS (180 c) TDS (total ion - 0	.5 HCO3)				891.4	
EC (25 c)					1570.0	umhos/cm
EC (DIL) =	107.4	\mathbf{X}	16.67	=	1790.4	umhos/cm
ALK. as CaCO3		_			259.0	
рH					7.24	Std. Unit

ACCURACY CHECK

		RANGE
ION	1.092	0.96 to 1.04
TDS	1.038	0.90 to 1.10
EC	0.983	0.95 to 1.05

MINOR and TRACE CONSTITUENTS (Group 2)

ITEM	mg/L
ARSENIC (As)	0.012
CADMIUM (Cd)	<0.001
IRON (Fe)	< 0.030
LEAD (Pb)	<0.002
MANGANESE (Mn)	0.088
MERCURY (Hg)	< 0.0004
MOLYBDENUM (Mo)	<0.010
SELENIUM (Se)	0.005
URANIUM (U)	0.007
AMMONIA-N (NH3-N)	<0.1

%Cations	%Anions
Na+K - Cl Mg - SO4 8.1 2.1 0.8 6 Ca - HCO3 %Anion	80.0 60.0 40.0 20.0 0.0

RADIATION-PICOCURIES/LITER

<u>15.17</u>

RADIUM 226 1.4 +/- 0.1 RADON 222 +/-

NOTE: QC documentation is on file at Jordan Labs 842 Cantwell Ln Corpus Christi, TX 78408

Remarks:

Turbidity = 7.33 Note: Samples are reduced and contain H2S that can lead to a

Checked by:

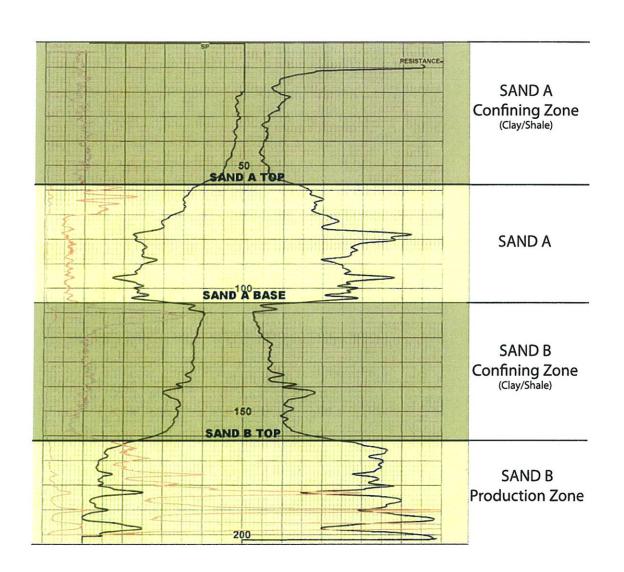
significant increase in turbidity.

APPENDIX B MAPS/CROSS-SECTIONS

APPENDIX C WELL LOGS/COMPLETIONS REPORTS

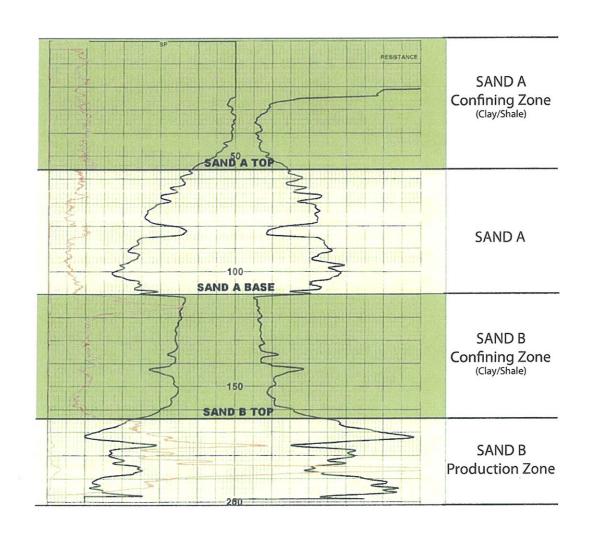


TD 202 FT GL 228.5 FT



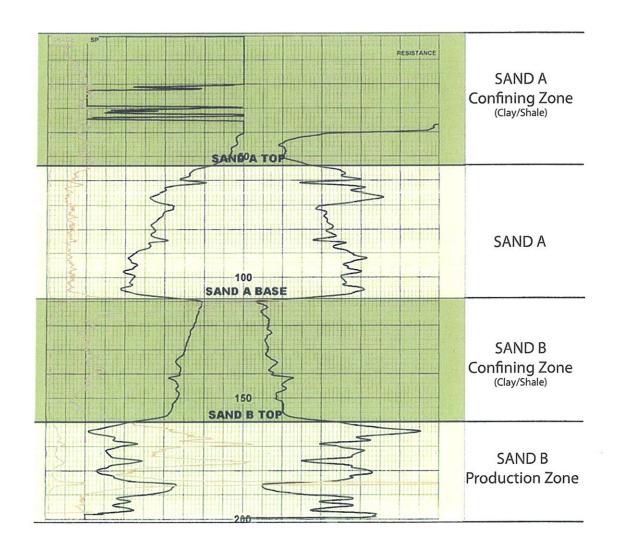


TD 199 FT GL 228.9 FT



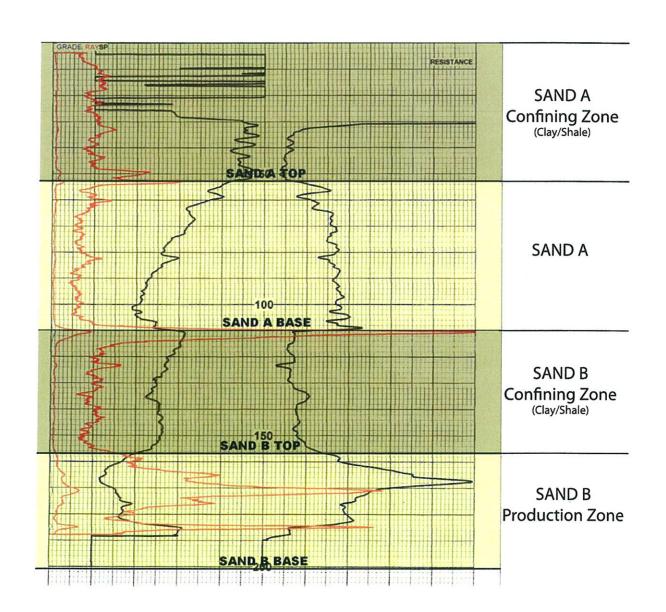


TD 200 FT GL 229.0 FT



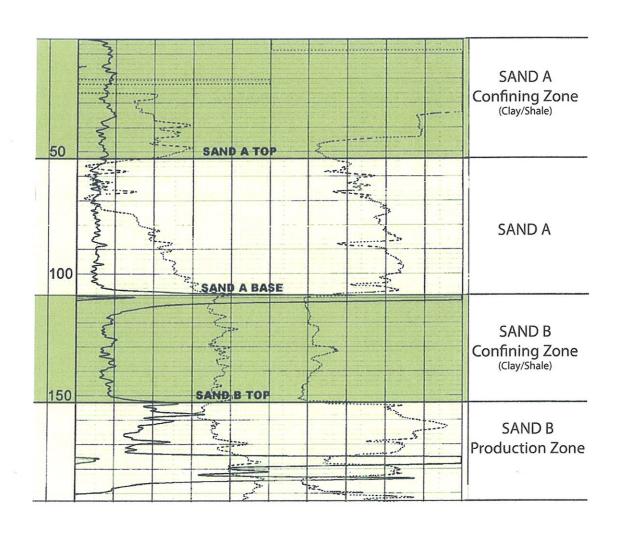


TD 187 FT GL 233.5 FT



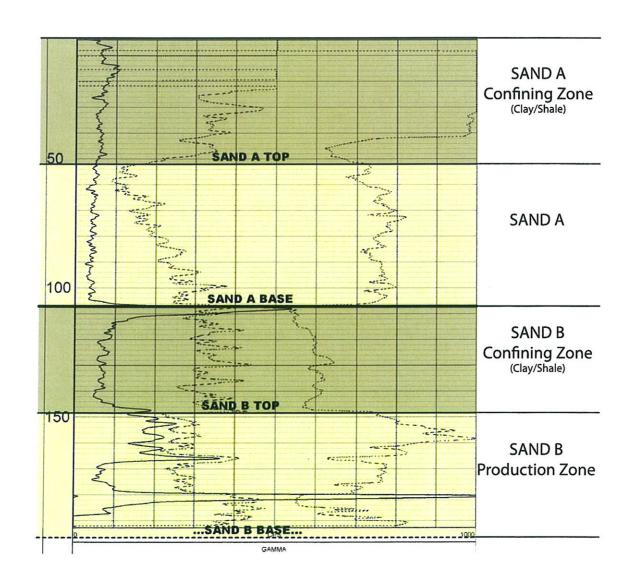


TD 195 FT GL 236.1 FT



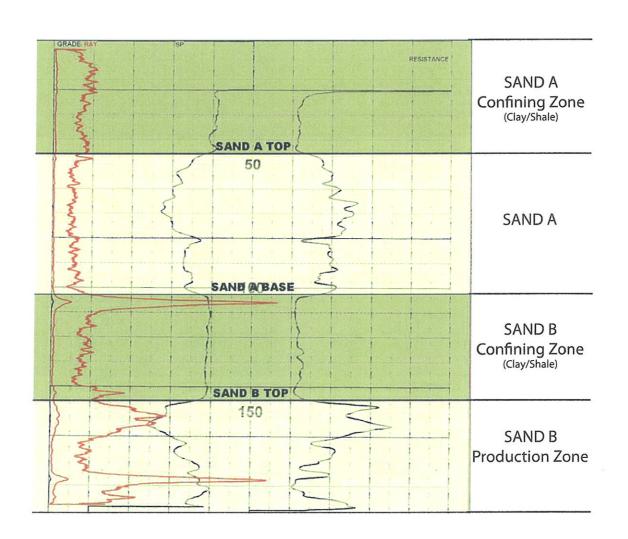


TD 193 FT GL 234.5 FT



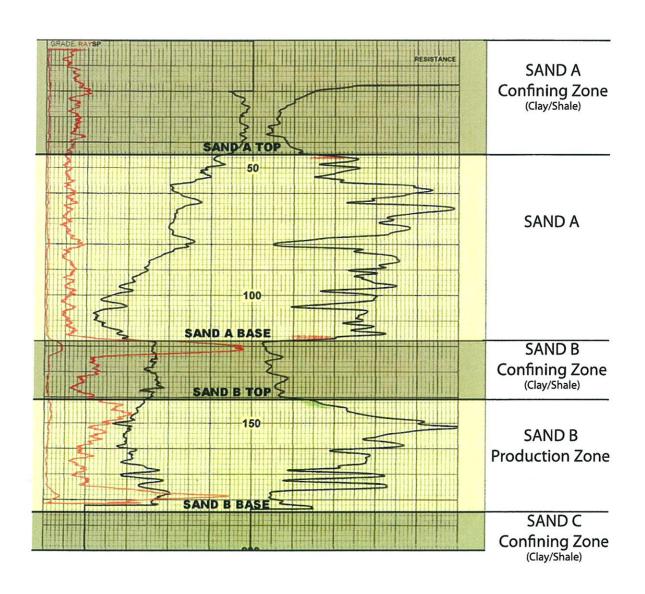


TD 190 FT GL 236.8 FT



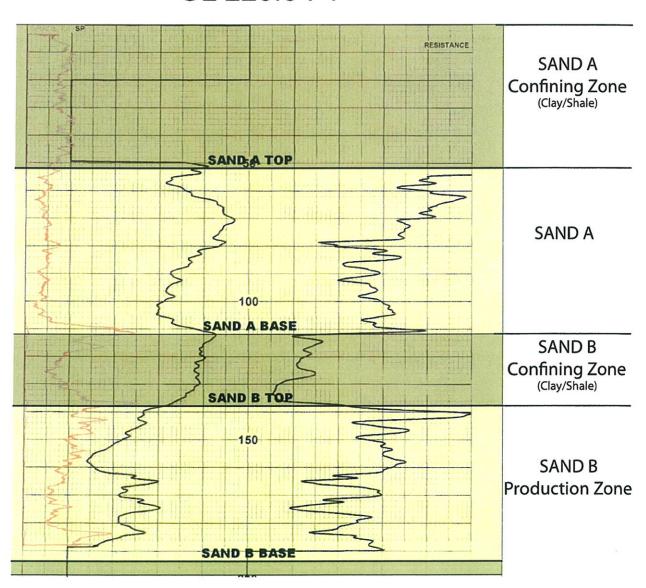


TD 183 FT GL 229.3 FT



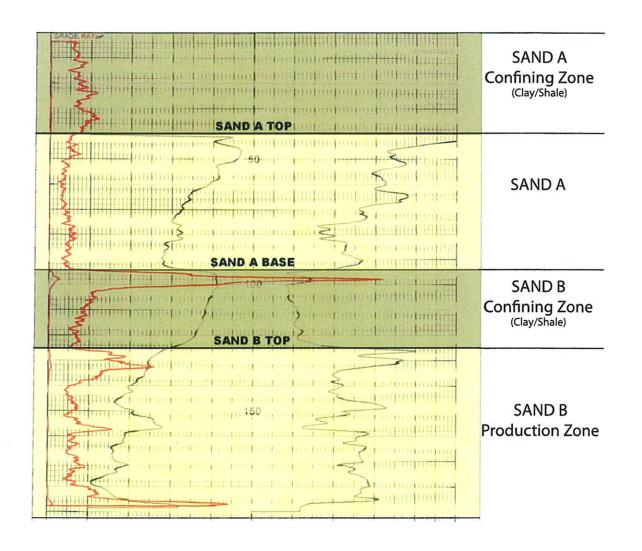


TD 190 FT GL 225.5 FT



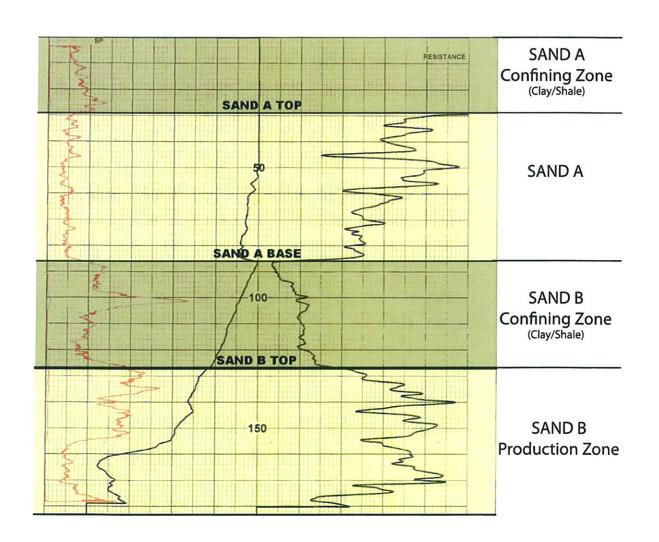


TD 184 FT GL 215.2 FT



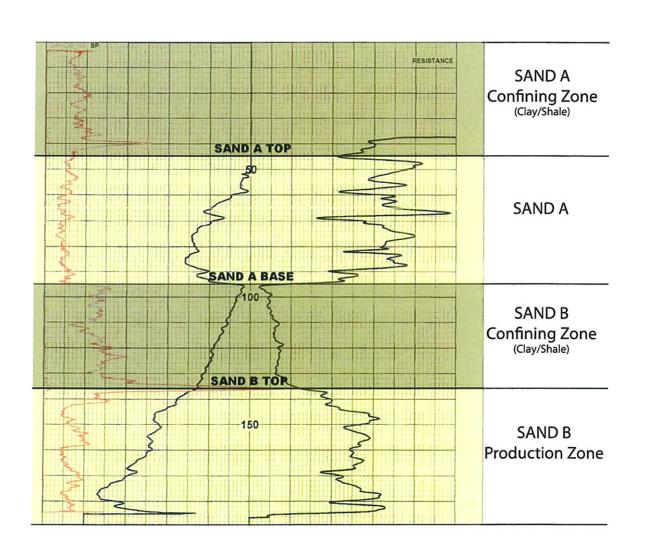


TD 181 FT GL 214.6 FT



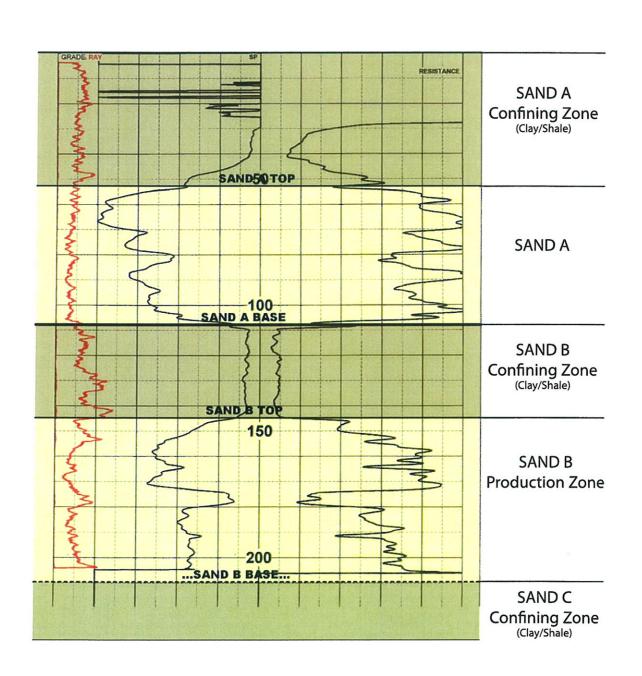


TD 187 FT GL 223.5 FT



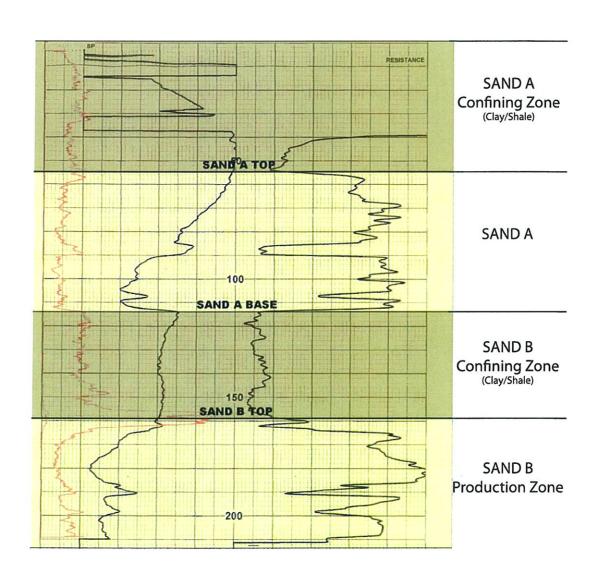


TD 206 FT GL 232.5 FT



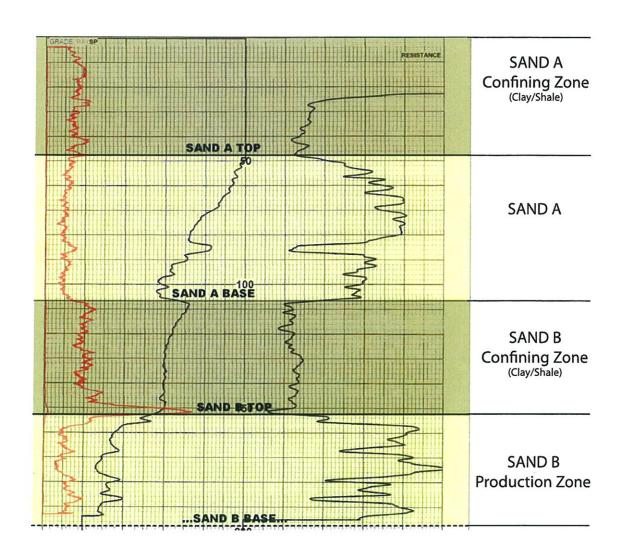


TD 212 FT GL 237.7 FT



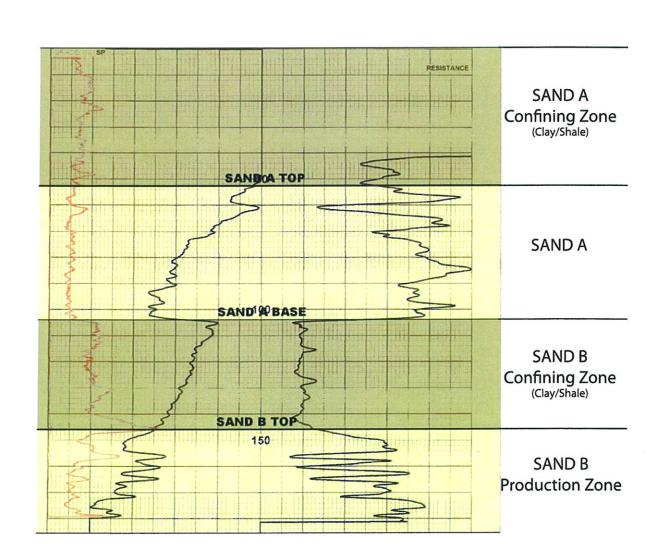


TD 195 FT GL 230.6 FT



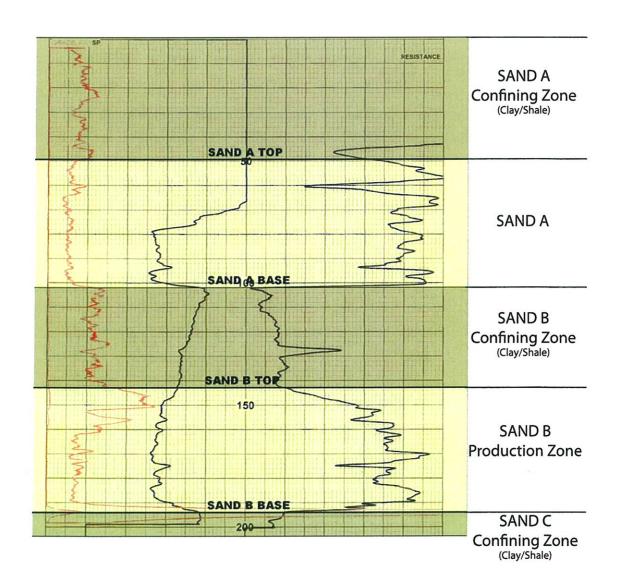


TD 182 FT GL 225.2 FT



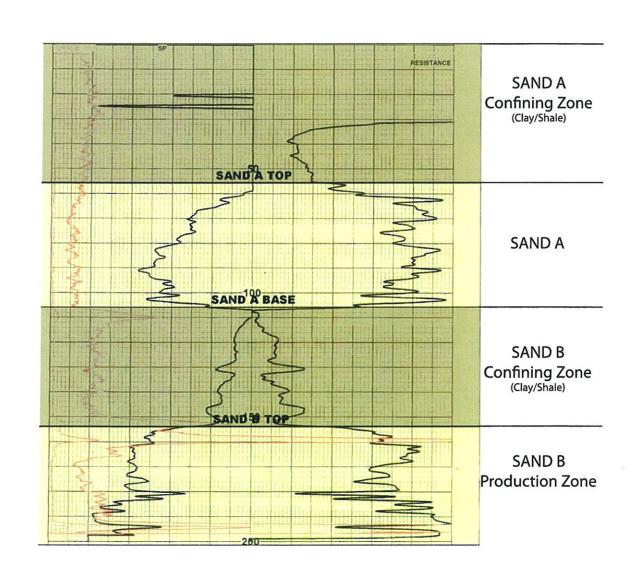


TD 201 FT GL 222.9 FT



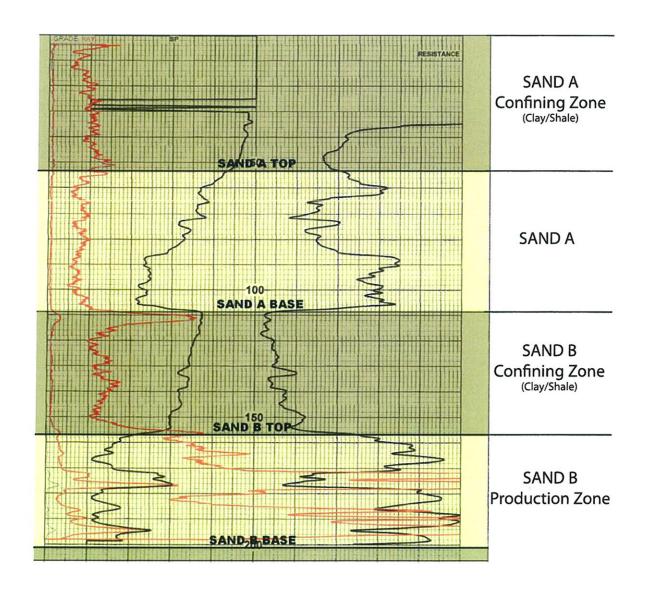


TD 199 FT GL 225.4 FT



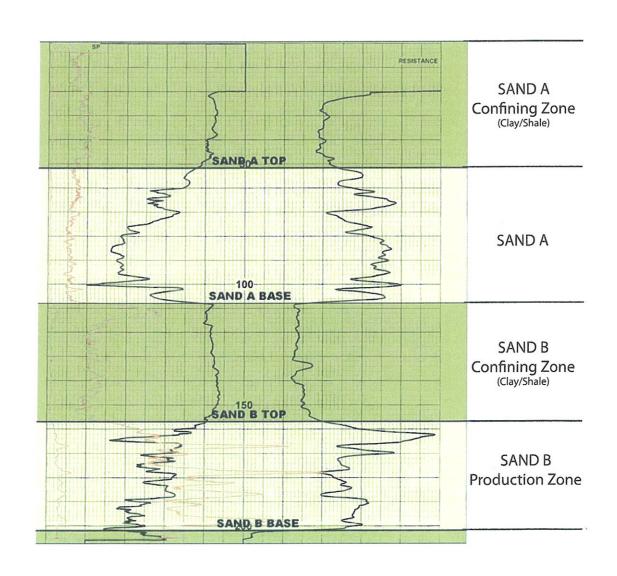


TD 201 FT GL 226.7 FT



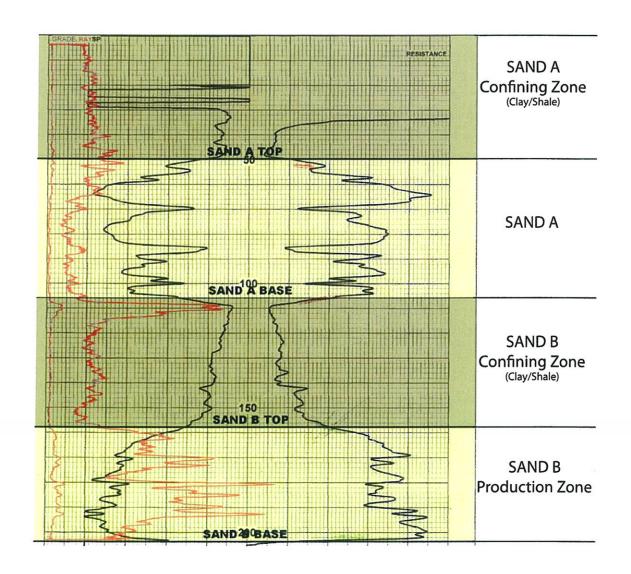


TD 205 FT GL 226.9 FT



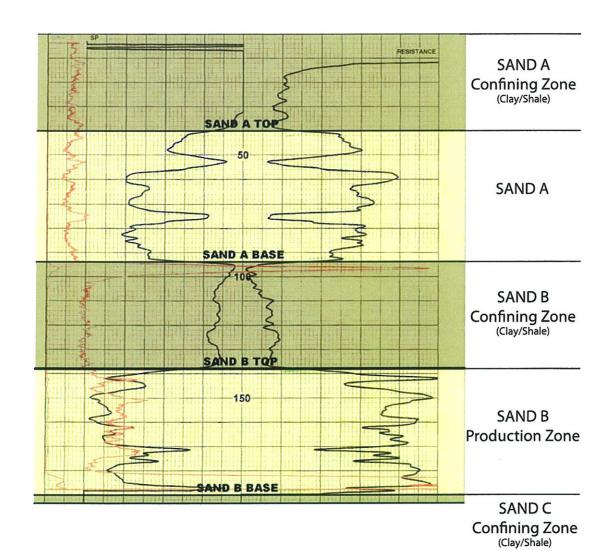


TD 205 FT GL 227.8 FT



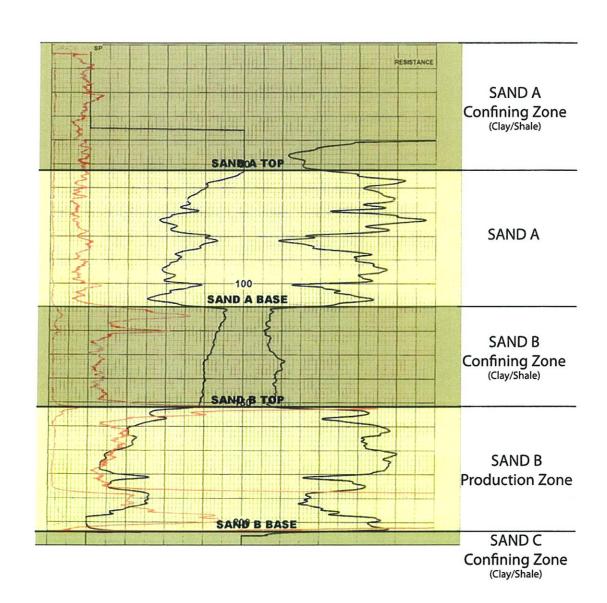


TD 190 FT GL 224.0 FT



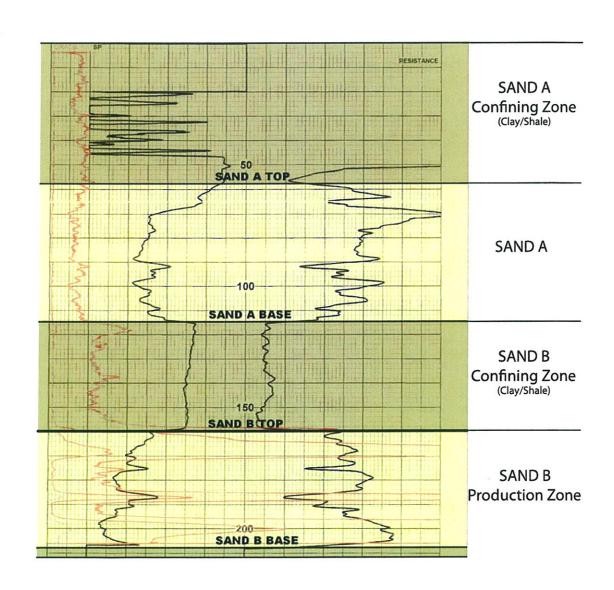


TD 206 FT GL 233.6 FT



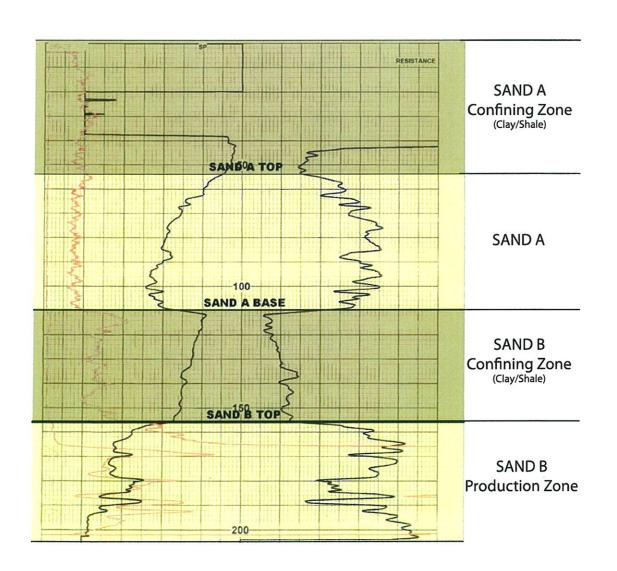


TD 208 FT GL 236.6 FT



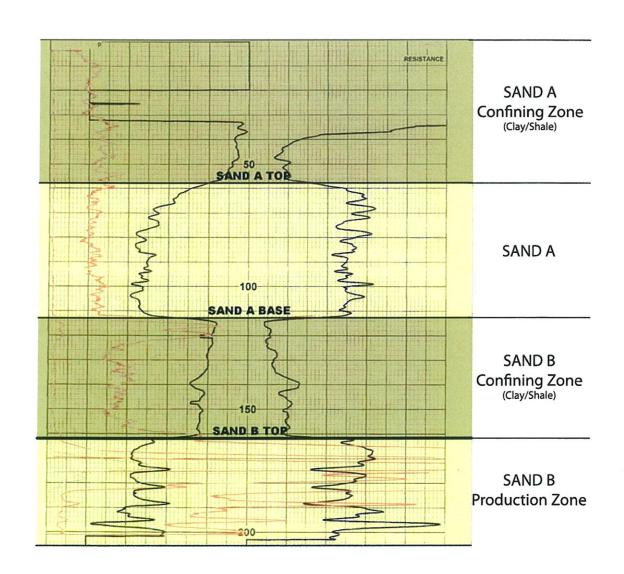


TD 204 FT GL 231.1 FT



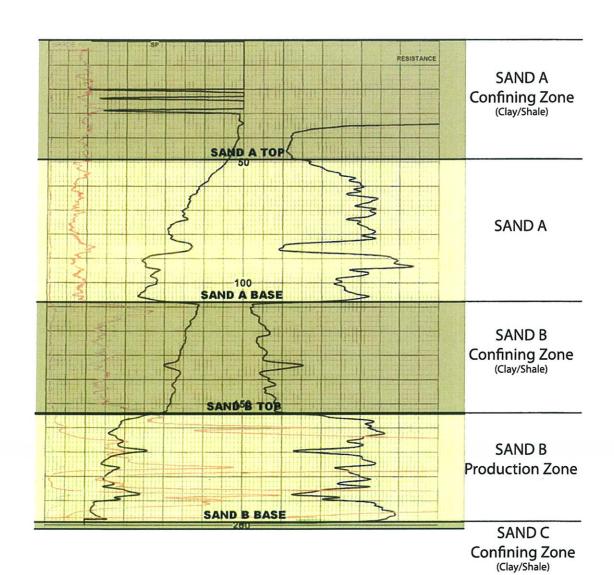


TD 204 FT GL 232.7 FT



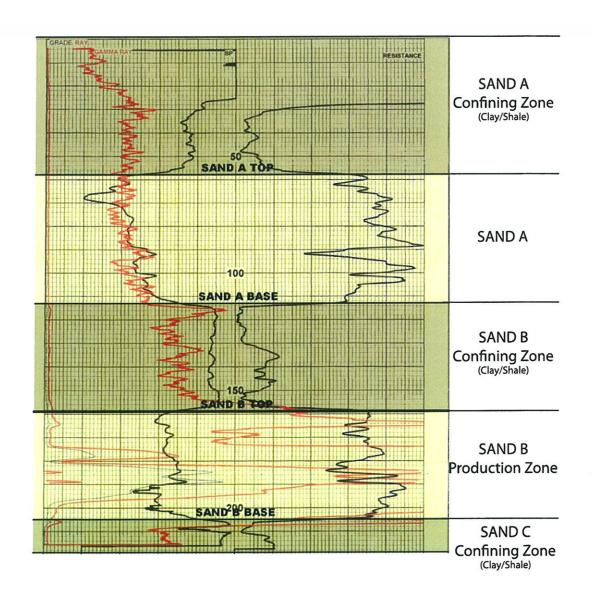


TD 199 FT GL 227.5 FT



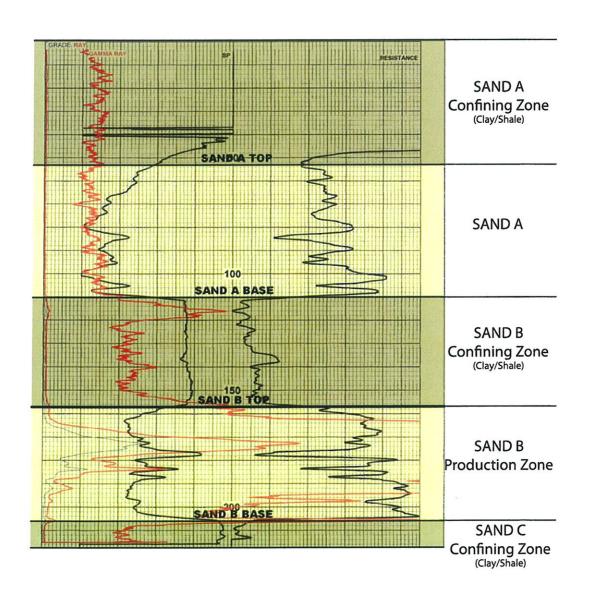


TD 225 FT GL 233.0 FT



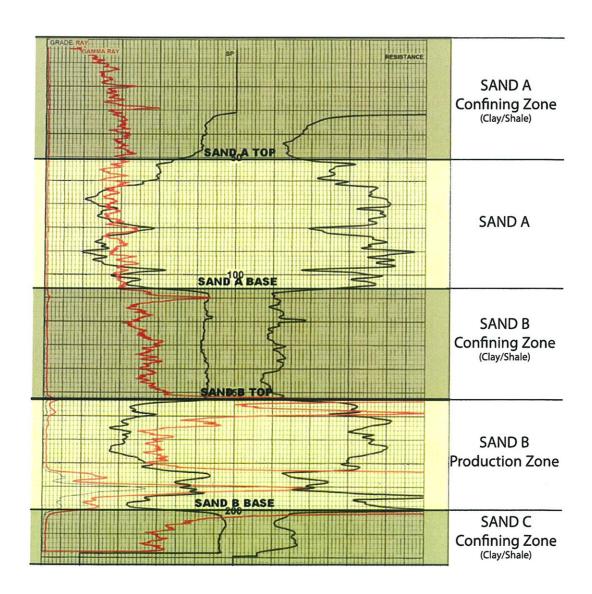


TD 220 FT GL 231.6 FT



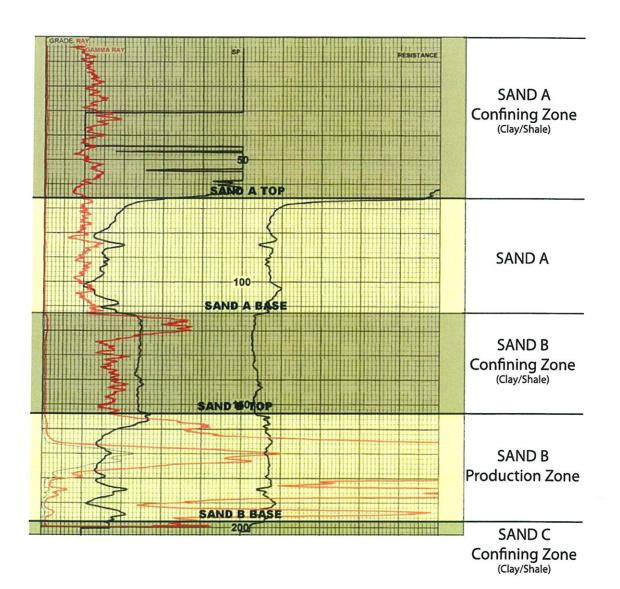


TD 230 FT GL 232.7 FT





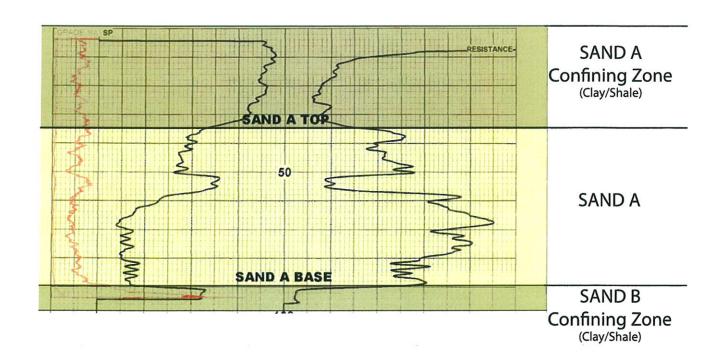
TD 220 FT GL 232.0 FT



32201-OMW-1

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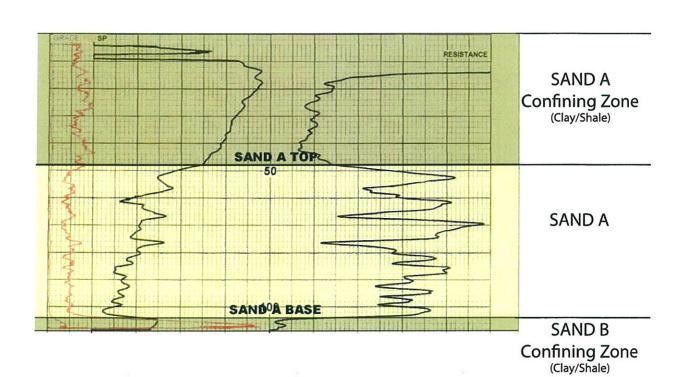
TD 97 FT GL 221.5 FT



32201-OMW-2

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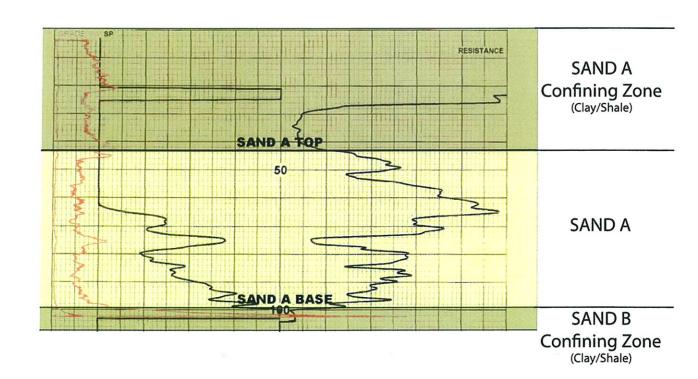
TD 110 FT GL 230.7 FT



32201-OMW-3

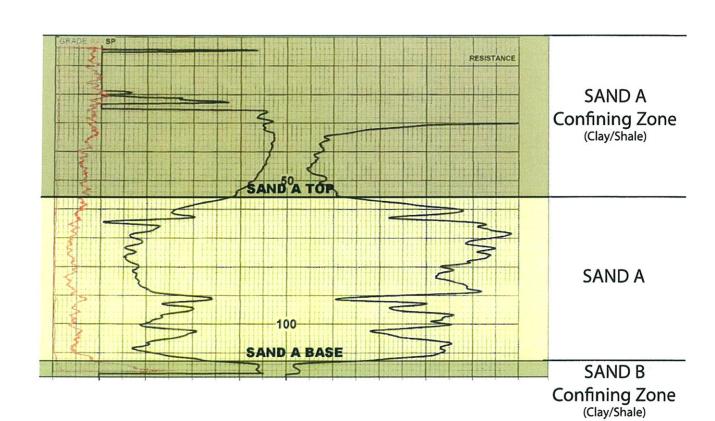
 \bigcirc

TD 105 FT GL 226.8 FT



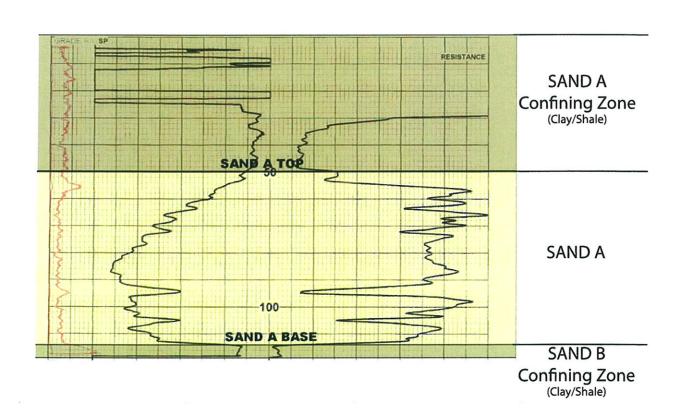
 \bigcirc

TD 119 FT GL 236.3 FT



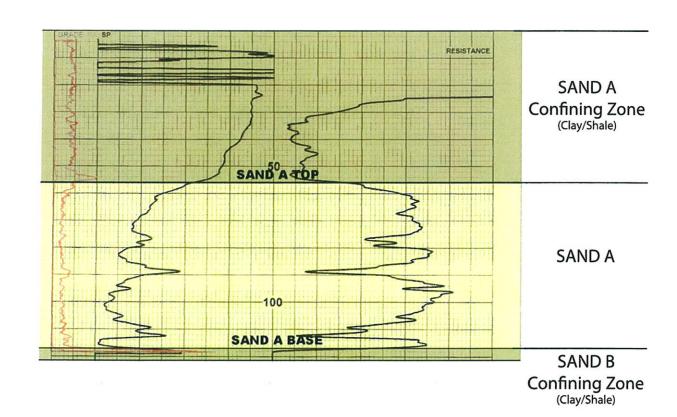


TD 120 FT GL 235.5 FT



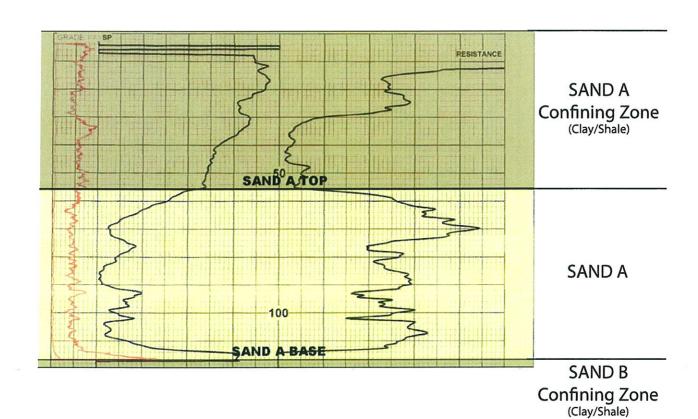


TD 121 FT GL 233.6 FT



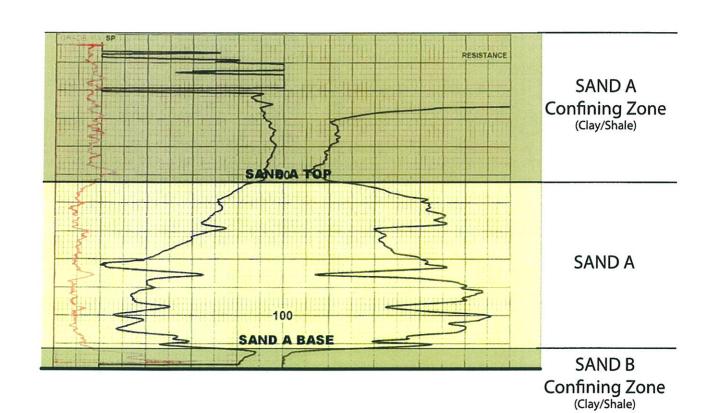
 \bigcirc

TD 119 FT GL 235.1 FT



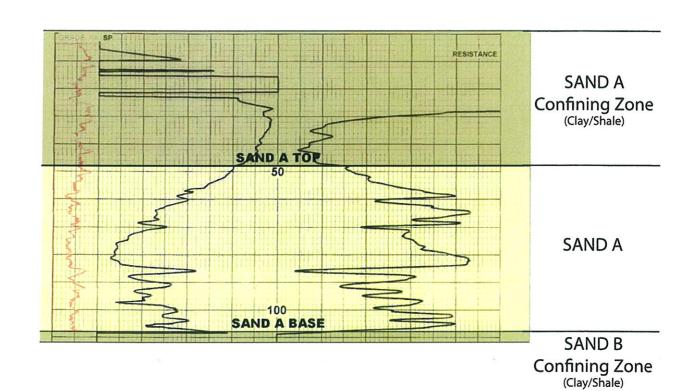


TD 119 FT GL 230.8 FT



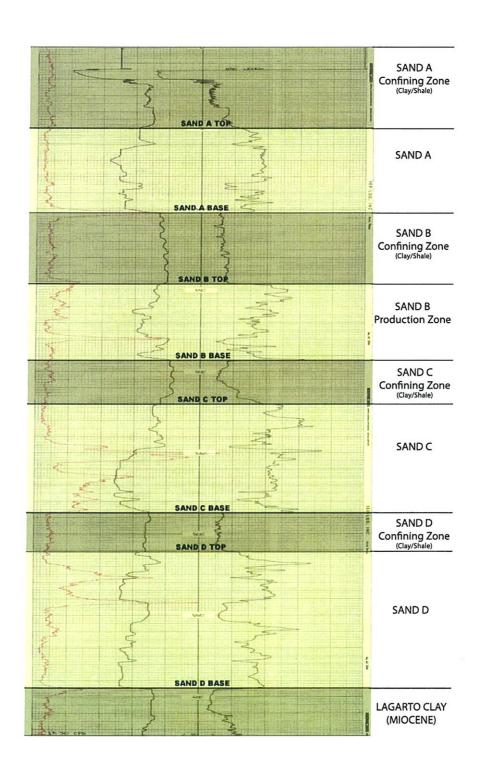
 \bigcirc

TD 110 FT GL 228.3 FT



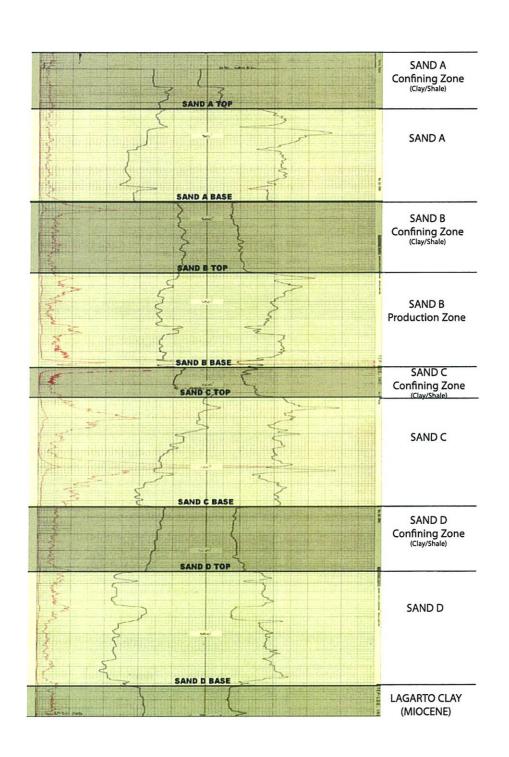


TD 424 FT GL 230.8 FT



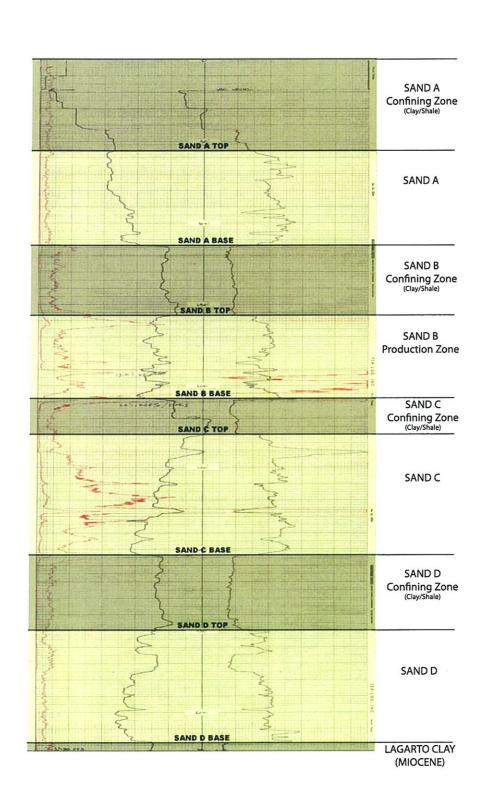


TD 400 FT GL 220.4 FT



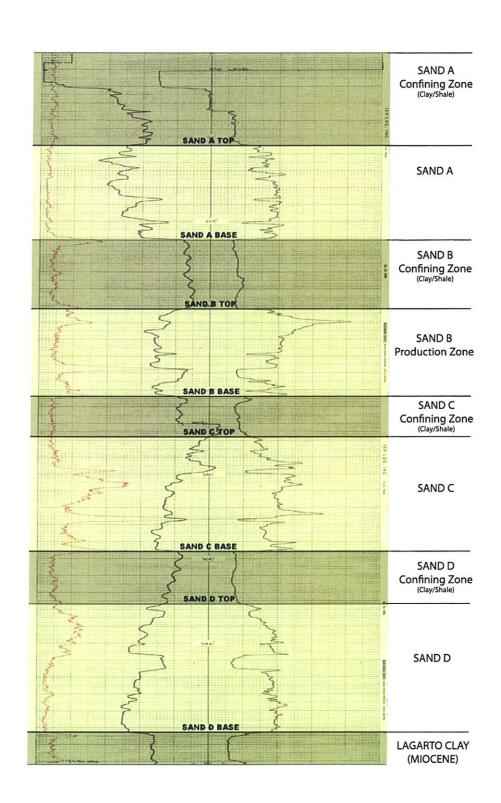


TD 424 FT GL 235.5 FT



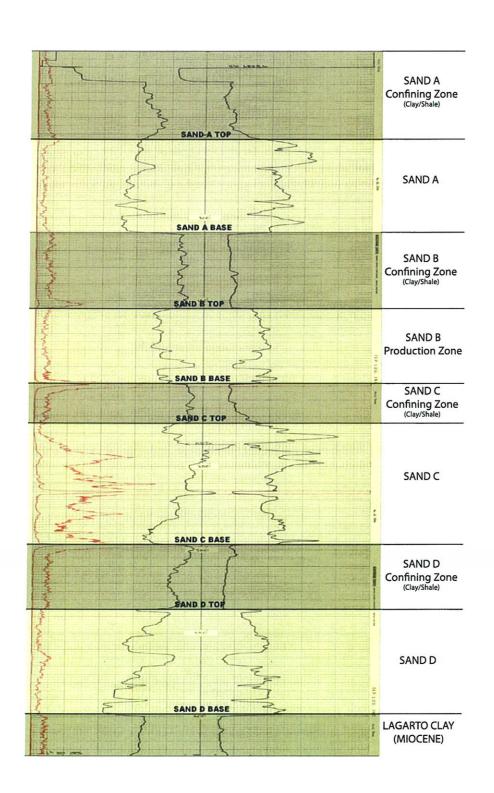


TD 422 FT GL 234.9 FT



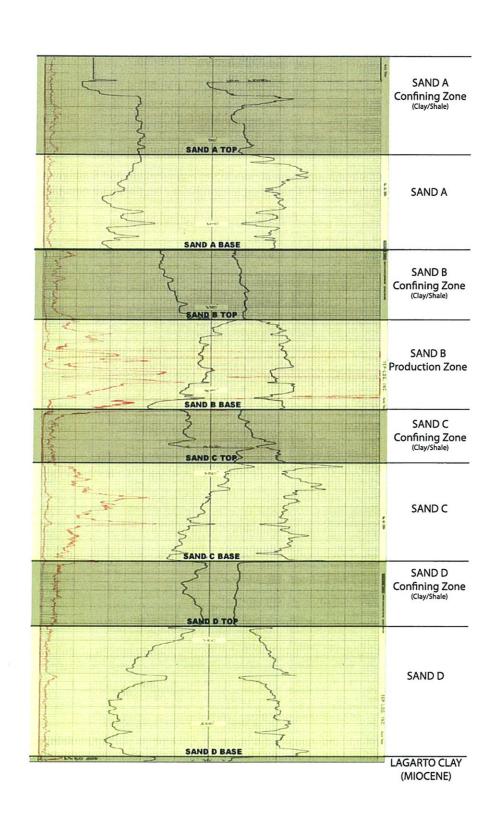


TD 424 FT GL 231.9 FT



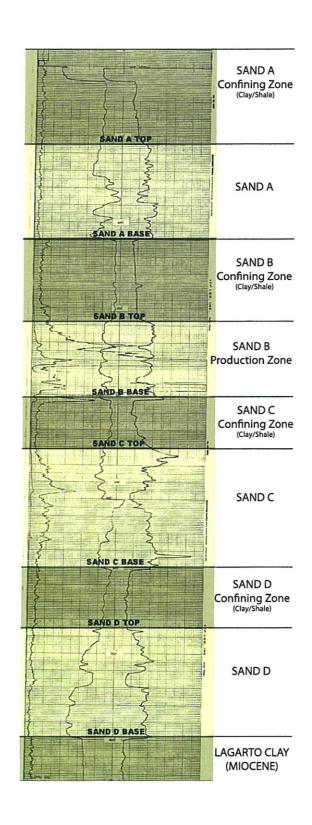


TD 423 FT GL 234.4 FT



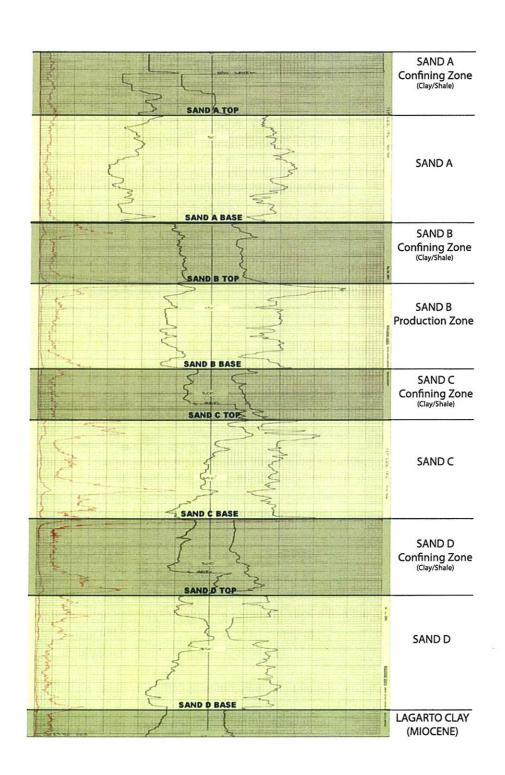


TD 425 FT GL 228.3 FT



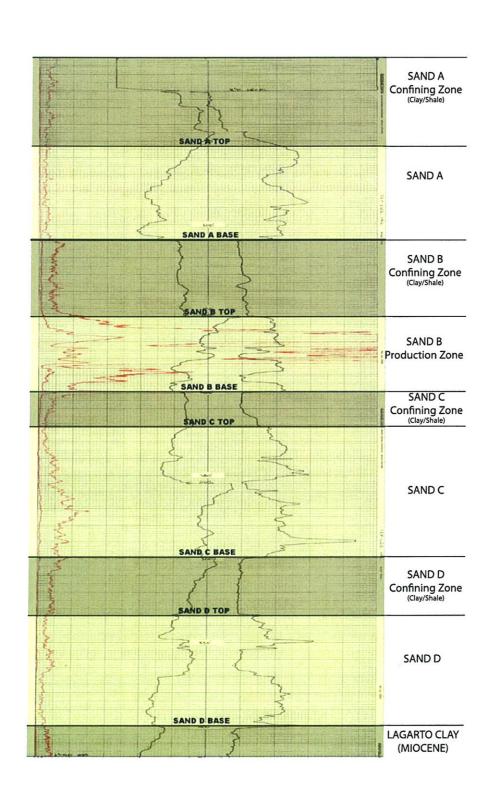


TD 402 FT GL 224.7 FT



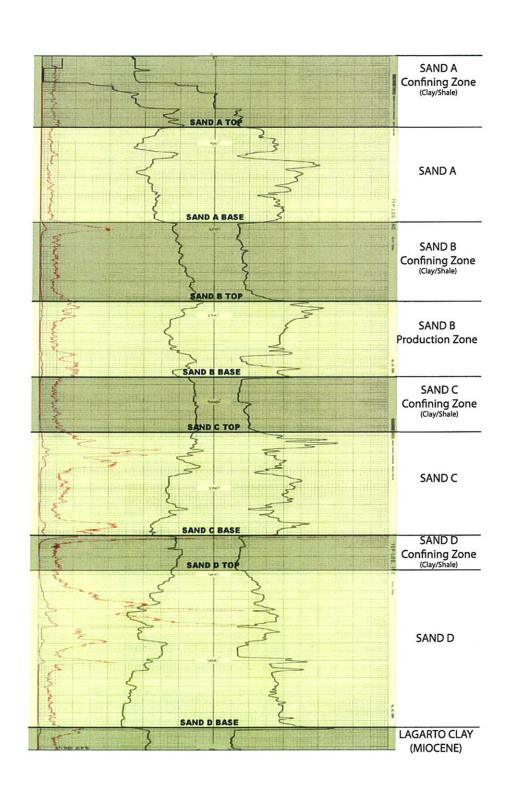


TD 419 FT GL 226.6 FT





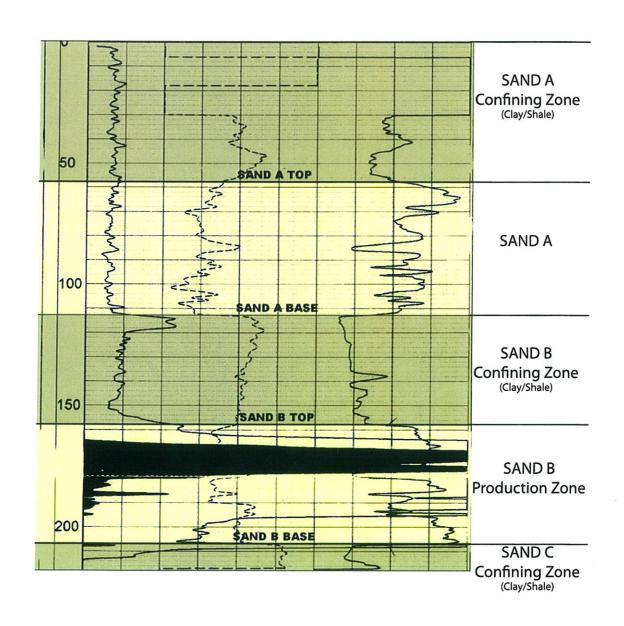
TD 220 FT GL 227.1 FT



32201-N129

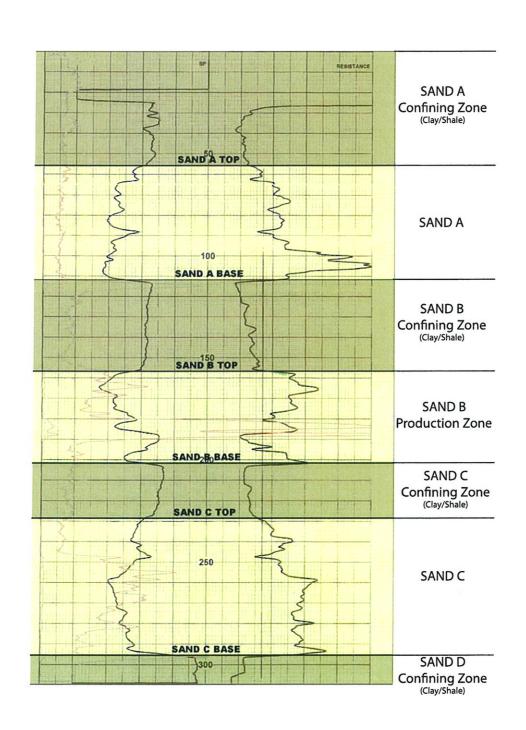


TD 218 FT GL 232.0 FT



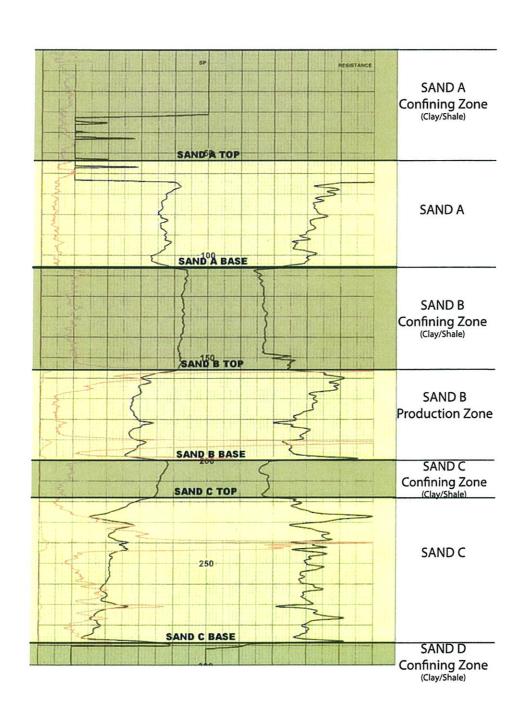


TD 310 FT GL 235.3 FT



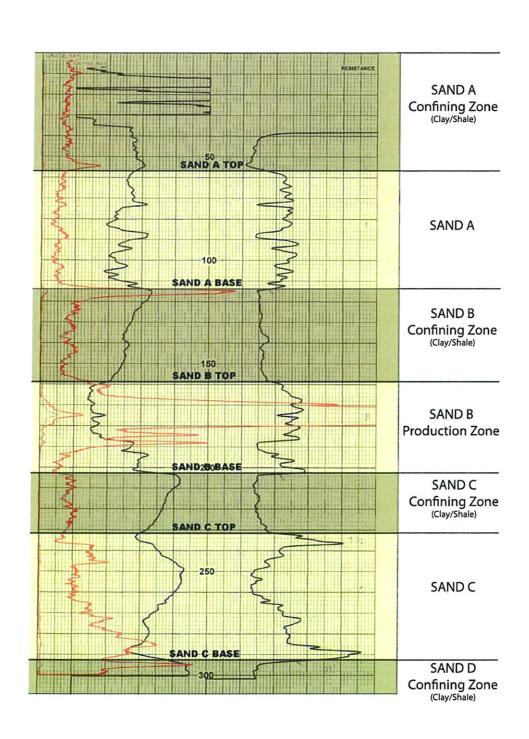


TD 300 FT GL 231.7 FT



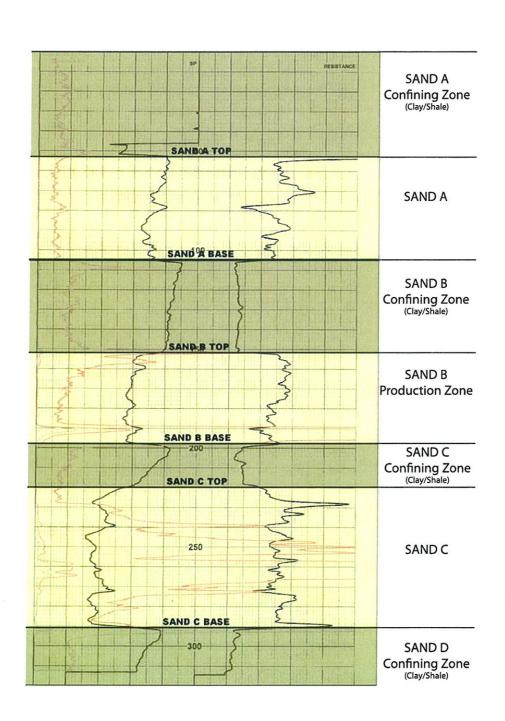


TD 300 FT GL 233.8 FT



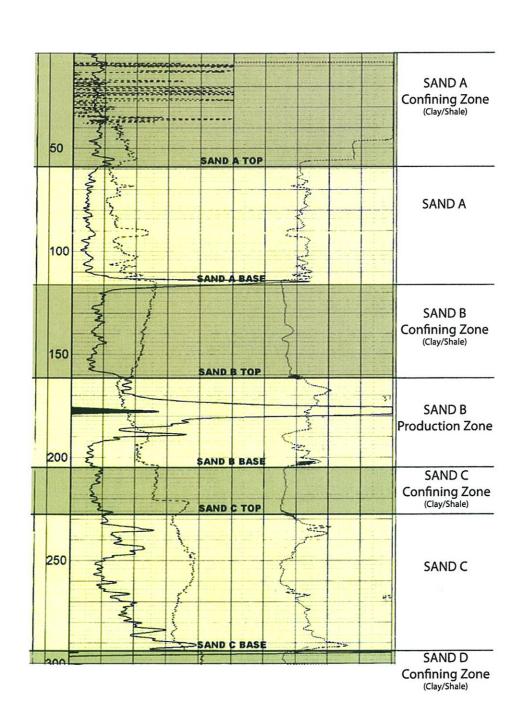


TD 314 FT GL 231.8 FT



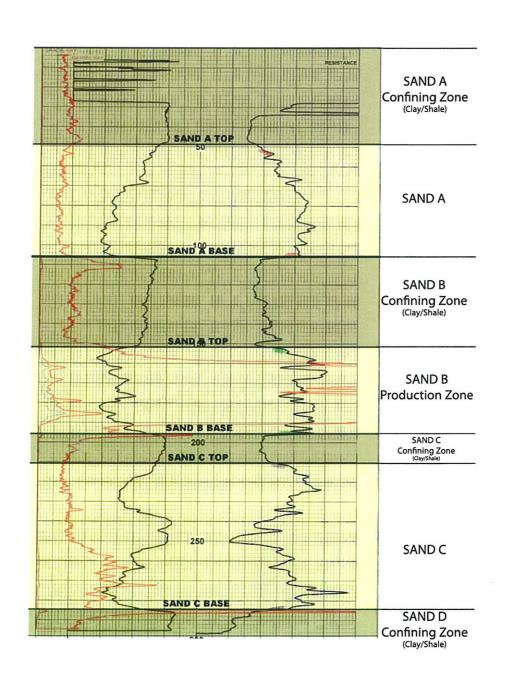


TD 301 FT GL 234.3 FT



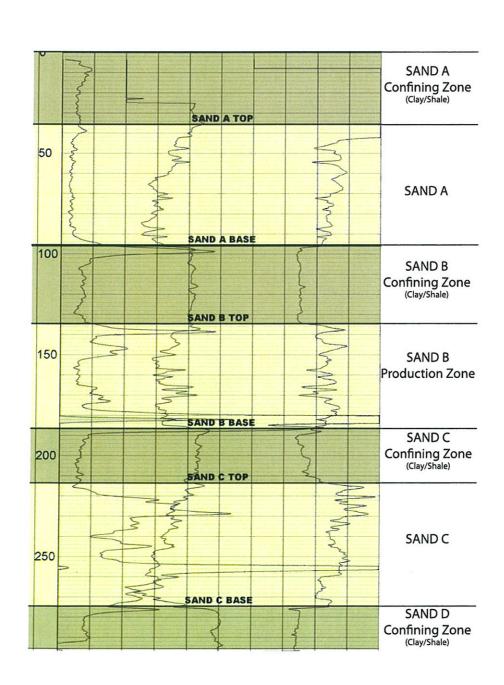


TD 300 FT GL 226.2 FT



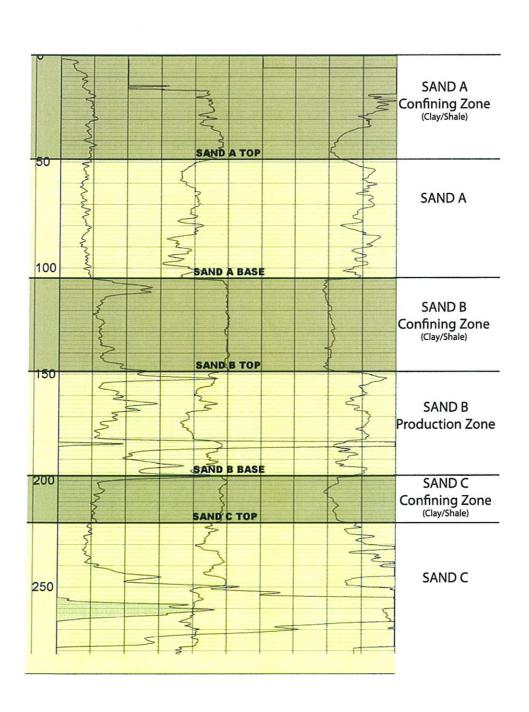


TD 297 FT GL 222.9 FT



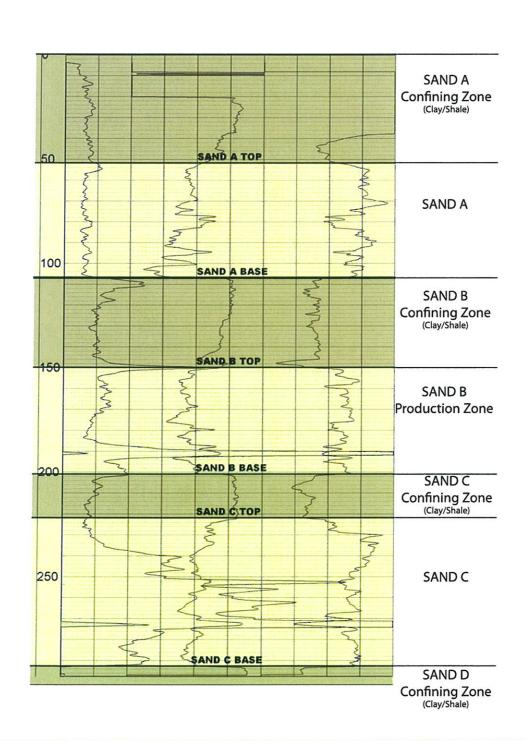


TD 283 FT GL 231.5 FT





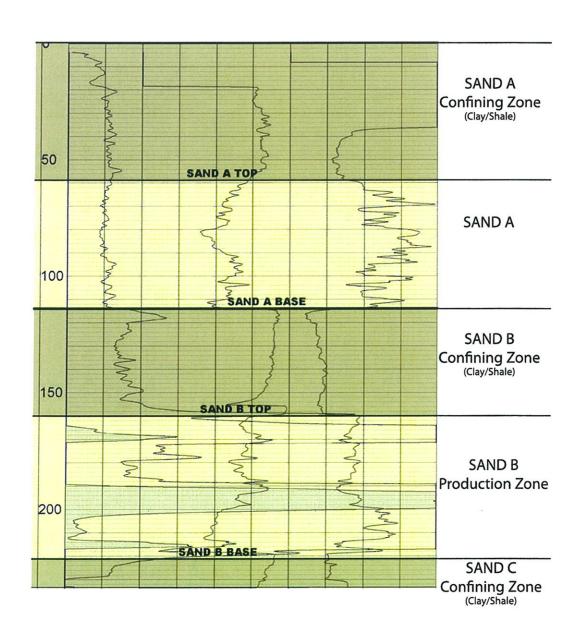
TD 297 FT GL 232.4 FT



32201-N65

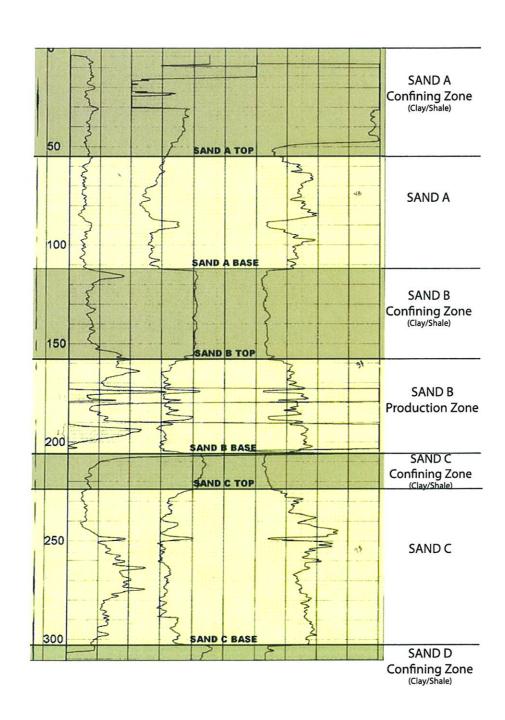


TD 234 FT GL 237.2 FT



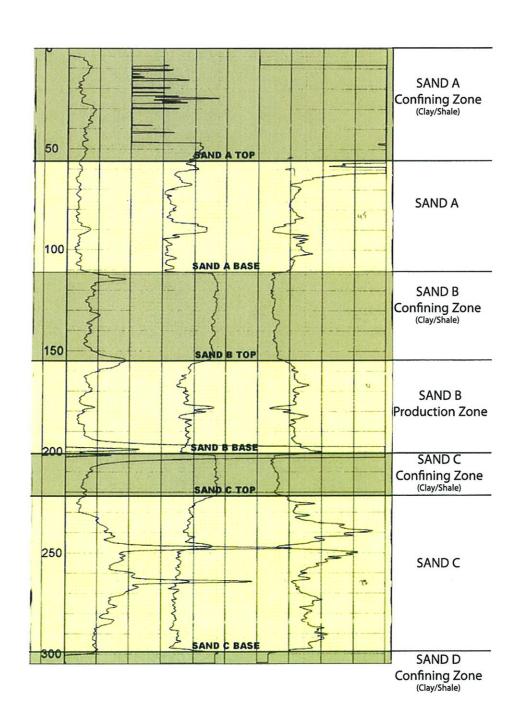


TD 311 FT GL 231.3 FT





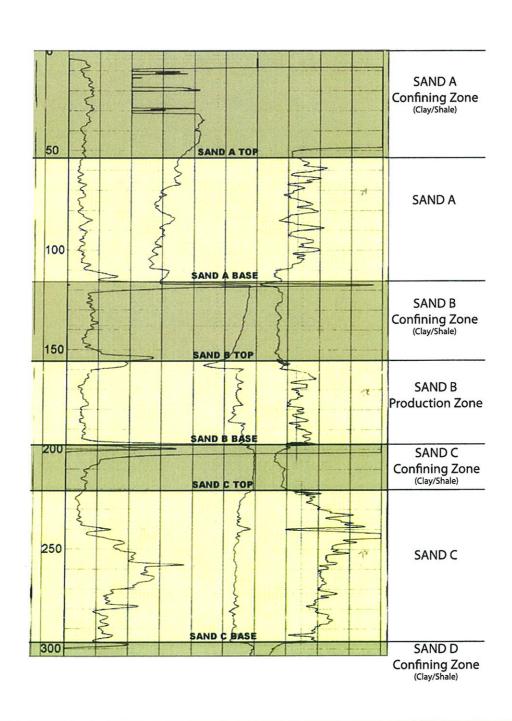
TD 305 FT GL 230.5 FT



32201-N84



TD 304 FT GL 229.8 FT



WELL NUMBER PTW-1	DATE April 14, 2008	······································
LEASE BRAQUET AREA WEESATCHE	FIELD SUPV. Wentz/Bairu CONTRACTOR ALL TEXAS	
HOLE DIAMETER 9.875"		
CASING DIAMETER 5" REAMED DIAMETER 8"	HOLE MEASUREMENTS	
REAIVIED DIAIVIETER 6		REAMER:
		CONE
LINER DATA		BLADE 8"
PACKER TYPE Fig. K NUMBER 2		
LINER DIAMETER 3"		
SCREEN TYPE REGULAR SLOT 0.01		
	CASING T.D.	<u>158</u> FT.
GRAVEL		
SIZE N/A	UNDER-	159 FT.
SACKS CALCULATED N/A TAKEN N/A	REAMED	
	INTERVAL	188 FT.
COMMENTS		
	DRILLED T.D.	190 FT.
	DIGLEED 1.D.	
		•
	LINER MEASUREMENTS	
	·	
	FEE ⁻	FROM TO
	. J-Collar	
	TOP K-Packer	
MUCCEPP TOP OF Y		2.75 150.25 153.00
TAGGED TOP OF J 150.25	K-Packer	
	STEEL	
	BLANK	7 153.00 160.00
<u>USEFUL DATA</u>	SCREEN	20 160.00 180.00
	3" Casing PVC 3"X2" Reducer PVC	
	SAND 2" Nipple PVC	
		5.00 180.00 185.00
	2" Nipple PVC 2" Check Valve PVC	
		

well number PTW-2 Lease Braquet	DATE April 9, 2008 FIELD SUPV. Wentz/Bairu	*
AREA WEESATCHE	CONTRACTOR ALL TEXAS	
HOLE DIAMETER 9.875" CASING DIAMETER 5"	HOLE MEASUREMENT	C
REAMED DIAMETER 8"	HODE WEASUREMENT	2
		REAMER:
LINER DATA		CONE BLADE 8"
PACKER TYPE Fig. K NUMBER 2 LINER DIAMETER 3"		
SCREEN TYPE REGULAR SLOT 0.01		
	CASING T.D.	179 FT.
GRAVEL	CABING 1.D.	
SIZE N/A	UNDER-	180 FT.
SACKS CALCULATED N/A TAKEN N/A	REAMED	180 F1.
	INTERVAL	200 PM
COMMENTS		
•	DRILLED T.D.	211 FT.
		· · · · · · · · · · · · · · · · · · ·
	I INITED MIT A CHIDERMENT	··
	<u>LINER MEASUREMENT</u>	5
		EET FROM TO
	J-Collar	
	TOP K-Packer	
TAGGED TOD OF I 172.25	ASS'Y Steel Nipple K-Packer	2.75 172.25 175.00
TAGGED TOP OF J 172.25	K-Facket	
	STEEL	
	BLANK _	7 175.00 182.00
,		
USEFUL DATA	SCREEN -	
San	I	20 182.00 202.00
	3" Casing PVC	
	3"X2" Reducer PVC	
	SAND 2" Nipple PVC TRAP 2" Check Valve PVC	5.00 202.00 207.00
	2" Nipple PVC	
	2" Check Valve PVC	
	_	

WELL NUMBER PTW-3 LEASE BRAQUET AREA WEESATCHE	DATE April 15, 2008 FIELD SUPV. Wentz/Bairu CONTRACTOR ALL TEXAS	
HOLE DIAMETER 9.875" CASING DIAMETER 5" REAMED DIAMETER 8"	HOLE MEASUREMENTS	REAMER:
LINER DATA		CONE BLADE 8"
PACKER TYPE Fig. K NUMBER 2 LINER DIAMETER 3" SCREEN TYPE REGULAR SLOT 0.01		
GRAVEL .	CASING T.D.	174 FT.
SIZE N/A SACKS CALCULATED N/A TAKEN N/A	UNDER- REAMED INTERVAL	175_ FT.
COMMENTS		204 FT.
	DRILLED T.D.	206 FT.
	LINER MEASUREMENTS	
	FEI	ET FROM TO
TAGGED TOP OF J 168.25	J-Collar TOP K-Packer X ASS'Y Steel Nipple K-Packer X	2.75 168.25 171.00
	STEEL BLANK	7 171.00 178.00
USEFUL DATA	SCREEN —	20 178.00 198.00
	3" Casing PVC 3"X2" Reducer PVC SAND 2" Nipple PVC	5.00 198.00 203.00

wELL NUMBER PTW-4	DATE April 16, 2008	
LEASE BRAQUET	FIELD SUPV. Wentz/Bairu	
AREA WEESATCHE HOLE DIAMETER 9.875"	CONTRACTOR ALL TEXAS	
CASING DIAMETER 5"	HOLE MEASUREMENTS	
REAMED DIAMETER 8"		
		REAMER:
		CONE
LINER DATA		BLADE 8"
PACKER TYPE Fig. K NUMBER 2		
LINER DIAMETER 3"		
SCREEN TYPE REGULAR SLOT 0.01		
CD AVIDY	CASING T.D.	<u>176</u> FT.
GRAVEL		
SIZE N/A	UNDER-	177 FT.
SACKS CALCULATED N/A TAKEN N/A	REAMED	
	INTERVAL	
CON O CONTROL		<u>206</u> FT.
COMMENTS		
	DRILLED T.D.	208 FT.
•		
	LINER MEASUREMENTS	
	EINER WEASUREMENTS	
	FEI	ET FROM TO
	J-Collar J-Collar	
	TOP K-Packer ASS'Y Steel Nipple	2.75 170.25 173.00
TAGGED TOP OF J 170.25	K-Packer	2.73 170.23 173.00
TAGGED TOT OF T	A Table	
	STEEL	7 173.00 180.00
	BLANK	7 173.00 180.00
<u>USEFUL DATA</u>	SCREEN	20 180.00 200.00
		20 180.00 200.00
	SCREEN	
	3" Casing PVC	
	3"X2" Reducer PVC	
	SAND 2" Nipple PVC	5 00 000 00 005 00
	TRAP 2" Check Valve PVC	5.00 200.00 205.00
	2" Nipple PVC 2" Check Valve PVC	
	Z Check valver ve [2]	
•	<u> </u>	

BRAQUE WEIGHTON ALL TEXAS	WELL NUMBER PTW-5		15, 2008	
HOLE DIAMETER 9.875" STEEL STE	LEASE BRAQUET AREA WEESATCHE	FIELD SUPV. CONTRACTOR	Wentz/Bairu ALL TEXAS	
REAMER REAMER CONE CON	HOLE DIAMETER 9.875"	11		
COMPANDATE Fig. K NUMBER 2 NUMBER 3 SCREEN TYPE REGULAR SLOT 0.01 NUMBER 2 STEEL NUMBER 2 STEEL NUMBER 2 STEEL NUMBER 2 STEEL NUMBER 3 STEEL NUMBER NU			HOLE MEASURE	<u>MENTS</u>
BLADE STEEL				
LINER DIAMPETER 31	LINER DATA			
LINER DIAMPETER 31	DACVED TVDE C: V NUMBED 2			
CASING T.D. SIZE N/A SACKS CALCULATED N/A TAKEN N/A NTERVAL COMMENTS DRILLED T.D. LINER MEASUREMENTS TAGGED TOP OF J 169.25 DISEPUL DATA CASING T.D. UNDER REAMED NTERVAL DRILLED T.D. LINER MEASUREMENTS TOP ASSYY Steel Nipple K-Packer STEEL BLANK STEEL B	LINER DIAMETER 3"			
SIZE N/A N/A TAKEN N/A N/A N/A N/A N/A N/A N/A N/B N	SCREEN TYPE REGULAR SLOT 0.01			
SIZE N/A N/A TAKEN N/A		CASING T.D.		175_ FT.
SACKS CALCULATED N/A TAKEN N/A REAMED INTERVAL 205 FT.	GRAVEL			
NTERVAL 205 FT.				176_ FT.
COMMENTS	SACKS CALCULATED N/A TAKEN N/A			
DRILLED T.D. 207 FT.		INTERVAL		205_ FT.
LINER MEASUREMENTS FEET FROM TO	COMMENTS			
TOP K-Packer ASS'Y Steel Nipple K-Packer Z 169.25 172.00		DRILLED T.D.		207_ FT.
TOP K-Packer ASS'Y Steel Nipple K-Packer Z 169.25 172.00				
TOP K-Packer ASS'Y Steel Nipple K-Packer Z 169.25 172.00				A CONTRACTOR OF THE CONTRACTOR
TOP K-Packer ASS'Y Steel Nipple K-Packer			LINER MEASURE	<u>MENTS</u>
TOP K-Packer Steel Nipple 2.75 169.25 172.00 TOP ASS'Y Steel Nipple 2.75 169.25 172.00 STEEL BLANK 7 172.00 179.00 SCREEN 20 179.00 199.00 3" Casing PVC 3"X2" Reducer PVC 2Nipple PVC TRAP 2" Check Valve PVC 2" Nipple PVC 2				FEET FROM TO
TOP K-Packer Steel Nipple 2.75 169.25 172.00 TOP ASS'Y Steel Nipple 2.75 169.25 172.00 STEEL BLANK 7 172.00 179.00 SCREEN 20 179.00 199.00 3" Casing PVC 3"X2" Reducer PVC 2Nipple PVC TRAP 2" Check Valve PVC 2" Nipple PVC 2		ı	'ollar 🔲	
TAGGED TOP OF J 169.25 STEEL BLANK 7 172.00 179.00		TOP K-I	Packer 🔀	
STEEL BLANK 7 172.00 179.00 USEFUL DATA SCREEN 20 179.00 199.00 3" Casing PVC 3"X2" Reducer PVC SAND 2" Nipple PVC TRAP 2" Check Valve PVC 2" Nipple PVC 2" Nipple PVC	TACCED TOD OF I 100 25			2.75 169.25 172.00
BLANK	TAGGED TOP OF J 109.25	K-I	racker	
BLANK			П	
BLANK		STEEL		
USEFUL DATA SCREEN 3" Casing PVC 3"X2" Reducer PVC SAND 2" Nipple PVC TRAP 2" Check Valve PVC 2" Nipple PVC 199.00 204.00				7 172.00 179.00
USEFUL DATA SCREEN 3" Casing PVC 3"X2" Reducer PVC SAND 2" Nipple PVC TRAP 2" Check Valve PVC 2" Nipple PVC 199.00 204.00				
USEFUL DATA SCREEN 3" Casing PVC 3"X2" Reducer PVC SAND 2" Nipple PVC TRAP 2" Check Valve PVC 2" Nipple PVC 199.00 204.00				
3" Casing PVC 3"X2" Reducer PVC SAND 2" Nipple PVC TRAP 2" Check Valve PVC 2" Nipple PVC 2" Nipple PVC 2" Nipple PVC	•			
3" Casing PVC 3"X2" Reducer PVC SAND 2" Nipple PVC TRAP 2" Check Valve PVC 2" Nipple PVC 2" Nipple PVC 2" Nipple PVC	<u>USEFUL DATA</u>	SCREEN		
3" Casing PVC 3"X2" Reducer PVC SAND 2" Nipple PVC TRAP 2" Check Valve PVC 2" Nipple PVC 2" Nipple PVC 2" Nipple PVC 2" Nipple PVC				20 179.00 199.00
3"X2" Reducer PVC SAND 2" Nipple PVC TRAP 2" Check Valve PVC 2" Nipple PVC 2" Nipple PVC 2" Nipple PVC			▦	
SAND 2" Nipple PVC TRAP 2" Check Valve PVC 2" Nipple PVC 2" Nipple PVC 2" Nipple PVC				
2" Nipple PVC		SAND 2" Nipple		
				5.00 199.00 204.00
·			L¥	
·				

WELL NUMBER PTW-6	DATE April 16, 2008	
LEASE BRAQUET AREA WEESATCHE	FIELD SUPV. Wentz/Bairu CONTRACTOR ALL TEXAS	
HOLE DIAMETER 9.875"	CONTRACTOR ALL TEXAS	
CASING DIAMETER 5"	HOLE MEASUREMENTS	
REAMED DIAMETER 8"		77.12.00
		REAMER: CONE
LINER DATA		BLADE 8"
		-
PACKER TYPE Fig. K NUMBER 2 LINER DIAMETER 3"		
SCREEN TYPE REGULAR SLOT 0.01		
GRAVEL	CASING T.D.	<u>174</u> FT.
SIZE N/A	TRIDED	155 PM
SACKS CALCULATED N/A TAKEN N/A	UNDER- REAMED	<u>175</u> FT.
TATE TAREAU	INTERVAL	
		<u>204</u> FT.
COMMENTS		
	DRILLED T.D.	206 FT.
	DRILLED I.D.	200 F1.
	<u>LINER MEASUREMENTS</u>	
	FE	ET FROM TO
	J-Collar TOP	
•	TOP K-Packer ASS'Y Steel Nipple	2.75 168.25 171.00
TAGGED TOP OF J 168.25	K-Packer	2.75 100.25 171.00
	STEEL	
	BLANK	7 171.00 178.00
	<u> </u>	-
<u>USEFUL DATA</u>	SCREEN	
	∥	20 178.00 198.00
	3" Casing PVC	
	3"X2" Reducer PVC	
	SAND 2" Nipple PVC	
		5.00 198.00 203.00
	2" Nipple PVC	
	2" Check Valve PVC	
		

WELL NUMBER OMW-I	_ DATE <u>April</u>	9, 2008				
LEASE BRAQUET AREA WEESATCHE	FIELD SUPV. CONTRACTOR	Wentz/B	airu TEXAS			
HOLE DIAMETER 9.875"						
CASING DIAMETER 5" REAMED DIAMETER 8"	-	HOLE M	<u>IEASUREMEN</u>	<u>rs</u>		
	-				REAME	R:
LINER DATA					CONE BLADE	8"
PACKER TYPE Fig. K NUMBER 2 LINER DIAMETER 3"	-					
SCREEN TYPE REGULAR SLOT 0.01	_					
	CASING T.D.				67	FT.
GRAVEL						
SIZE N/A	UNDER-				68	FT.
SACKS CALCULATED N/A TAKEN N/A	REAMED					•
	INTERVAL				90	FT.
COMMENTS	_					
	- DRILLED T.D.				96	FT.
	_					
	_					
	_	LINER M	MEASUREMEN'	<u>rs</u>		
	-			FEET	FROM	то
	— H	Collar Packer	\forall			
·	ASS'Y Ste	el Nipple		2.75	60.25	63.00
TAGGED TOP OF J 60.25	_ K-:	Packer				
			H ·			
	STEEL					
	BLANK	•		7	63.00	70.00
<u>USEFUL DATA</u>	SCREEN					
			# .	20	70.00	90.00
			H			
	3" Casing	g PVC educer PVC				
	SAND 2" Nipple		H			
	TRAP 2" Check	Valve PVC		5.00	90.00	95.00
	2" Nipple 2" Check	PVC Valve PVC	Н			
	2 5,000					
			-			
			-		_	····

WELL NUMBER OMW-2 LEASE BRAQUET	DATE April 9, 2008 FIELD SUPV. Wentz/Bairu	
AREA WEESATCHE	FIELD SUPV. Wentz/Bairu CONTRACTOR ALL TEXAS	
HOLE DIAMETER 9.875" CASING DIAMETER 5"	I WAY E ME A CYTENER	
REAMED DIAMETER 8"	HOLE MEASUREMENTS	
		REAMER:
LINER DATA		CONE BLADE 8"
LINEX DATA		BLADE 8
PACKER TYPE Fig. K NUMBER 2		
LINER DIAMETER 3" SCREEN TYPE REGULAR SLOT 0.01		
SOUTH STORY		
CD A VEY	CASING T.D.	80 FT.
GRAVEL		
SIZE N/A	UNDER-	81 FT.
SACKS CALCULATED N/A TAKEN N/A	REAMED INTERVAL	
	INTERVAL	103 FT.
COMMENTS		· · · · · · · · · · · · · · · · · · ·
•	DRILLED T.D.	109 FT.
	•	
	LINER MEASUREMENTS	
	MATERIAL SOCIETA	
		ET FROM TO
	J-Collar	
	TOP K-Packer	
TAGGED TOP OF J 73.25	ASS'Y Steel Nipple	2.75 73.25 76.00
TAGGED TOP OF J 73.25	K-Packer	
	STEEL	
	BLANK	7 76.00 83.00
	I	
USEFUL DATA	SCREEN	20 83.00 103.00
		20 83.00 103.00
	<u> </u>	
	3" Casing PVC 3"X2" Reducer PVC	
	SAND 2" Nipple PVC	
	TRAP 2" Check Valve PVC	5.00 103.00 108.00
	2" Nipple PVC 2" Check Valve PVC	
	Z Check valve PVC	
		· ·

WELL NUMBER OMW-3	DATE April 9, 2008	
LEASE BRAQUET AREA WEESATCHE	FIELD SUPV. Wentz/Bairu	
HOLE DIAMETER 9.875"	CONTRACTOR ALL TEXAS	
CASING DIAMETER 5"	HOLE MEASUREMENTS	
REAMED DIAMETER 8"		
		REAMER:
LINER DATA		CONE
		BLADE 8"
PACKER TYPE Fig. K NUMBER 2		
LINER DIAMETER 3"		
SCREEN TYPE REGULAR SLOT 0.01		
	CASING T.D.	77 177
GRAVEL	CABING 1.D.	
SIZE N/A	UNDER-	78 FT.
SACKS CALCULATED N/A TAKEN N/A	REAMED INTERVAL	
	INTERVAL	100 FT.
COMMENTS		
	DRILLED T.D.	106 FT.
	<u>LINER MEASUREMENTS</u>	
	FEET	FROM TO
	J-Collar	
	TOP K-Packer	
		.75 70.25 73.00
TAGGED TOP OF J 70.25	K-Packer	
	 	
	STEEL	
	BLANK	7 73.00 80.00
•		
	 	
	SCREEN	
<u>USEFUL DATA</u>	SCREEN	
	H	20 80.00 100.00
	<u> </u>	
	3" Casing PVC	
	3"X2" Reducer PVC	
	SAND 2" Nipple PVC	
		00 100.00 105.00
	2" Nipple PVC	
	2" Check Valve PVC	
	<u> </u>	7
	<u> </u>	
	<u>IL</u>	

¿LL NUMBER OMW-4	DATE April 10, 2008	
LEASE BRAQUET	FIELD SUPV. Wentz/Bairu	
AREA WEESATCHE	CONTRACTOR ALL TEXAS	
HOLE DIAMETER 9.875" CASING DIAMETER 5"	HOLE MEASURI	FMFNTS
REAMED DIAMETER 8"	HOLE MEASON	<u>MATERIALS</u>
		REAMER:
		CONE
LINER DATA		BLADE 8"
PACKER TYPE Fig. K NUMBER 2		
LINER DIAMETER 3"		
SCREEN TYPE REGULAR SLOT 0.01		
CD AVEN	CASING T.D.	90 FT.
GRAVEL		
SIZE N/A	UNDER-	91 FT.
SACKS CALCULATED N/A TAKEN N/A	REAMED	
	INTERVAL	
CONDITION OF THE PROPERTY OF T		113 FT.
COMMENTS		
4. 2000.00	DRILLED T.D.	119 FT.
	I INTED ME ACUD	EMERTS
	<u>LINER MEASUR</u>	EMEN 15
		FEET FROM TO
	J-Collar	
	TOP K-Packer	2.75 :02.25
TAGGED TOP OF J 83.25	ASS'Y Steel Nipple K-Packer	2.75 83.25 86.00
TAODED TOP OF J 63.23	K-1 acker	
	STEEL	
	BLANK	7 86.00 93.00
	III	
	SCREEN	
<u>USEFUL DATA</u>	SCREEN	20 03 00 113 00
		20 93.00 113.00
	# # #	
	3" Casing PVC	
	3"X2" Reducer PVC	
	SAND 2" Nipple PVC	
	TRAP 2" Check Valve PVC	5.00 113.00 118.00
	2" Nipple PVC	
	2" Check Valve PVC	

WELL NUMBER OMW-5 LEASE BRAQUET AREA WEESATCHE	DATE April 10, 2008 FIELD SUPV. Wentz/Bairu CONTRACTOR ALL TEXAS	
HOLE DIAMETER 9.875" CASING DIAMETER 5" REAMED DIAMETER 8"	CONTRACTOR ALL TEXAS HOLE MEASUREMENTS	
LINER DATA		REAMER: CONE BLADE 8"
PACKER TYPE Fig. K NUMBER 2 LINER DIAMETER 3" SCREEN TYPE REGULAR SLOT 0.01		BLADE 6
GRAVEL	CASING T.D.	90 FT.
SIZE N/A SACKS CALCULATED N/A TAKEN N/A	UNDER- REAMED INTERVAL	<u>91</u> FT.
COMMENTS	DRILLED T.D.	113 FT.
	LINER MEASUREMENTS	Phononical Processing Commission of Commission Commissi
	FEE	FROM TO
TAGGED TOP OF J 83.25	J-Collar TOP K-Packer ASS'Y Steel Nipple 2 K-Packer	83.25 86.00
	STEEL BLANK	7 86.00 93.00
<u>USEFUL DATA</u>	SCREEN	20 93.00 113.00
	3" Casing PVC 3"X2" Reducer PVC SAND 2" Nipple PVC	5.00 113.00 118.00

EASIS BRAQUET STEELS SIPPY WORLPRING STEELS SIPPY STEE	ELL NUMBER OMW-6	DATE April 10, 2008	
HOLE DÉLAMETER 9.875" REAMED DÉLAMETER 8" REAMER: CONE BLADE 8' PACKER TYPE FIG. NUMBER 2 LINER DAMETER 8" SOCREON TYPE REGULAR SLOT 0.01 CASINO T.D. 94 PT. CASINO T.D. 95 FT. SACKS CALCULATED N/A TAKEN N/A REAMED NITERVAL COMMENTS DRILLED T.D. 123 FT. TAGGED TOP OF J 87.25 LUSEFUL DATA USEFUL DATA USEFUL DATA USEFUL DATA LUSEFUL DATA SCREEN 2 90.00 17.00		FIELD SUPV. Wentz/Bairu	
REAMED DIAMETER ST	HOLE DIAMETER 9.875"	CONTRACTOR ALL TEXAS	
CASING T.D.		HOLE MEASUREMENTS	
COMMENTS	MANUEL DIFFUELLER 0		DEAMED.
CASING T.D. STATE	LINER DATA		CONE
CASING T.D. S.D.	PACKER TYPE Fig K NIIMBER 2		
CASING T.D. 94 FT.	LINER DIAMETER 3"		
SIZE N/A SACKS CALCULATED N/A TAKEN N/A NIEVAL STEEL STEEL BLANK STEEL STEEL BLANK STEEL BLANK STEEL STEEL STEEL BLANK STEEL	SCREEN TYPE REGULAR SLOT 0.01		
SACKS CALCULATED N/A TAKEN N/A	<u>GRAVEL</u>	CASING T.D.	94 FT.
SACKS CALCULATED N/A TAKEN N/A	SIZE N/A	v n man	
INTERVAL 117 FT.			<u>95</u> FT.
DRILLED T.D. 123 FT. LINER MEASUREMENTS FEET FROM TO	TAKEN 14/11		
DRILLED T.D. 123 FT.	COMMENTS		117 FT.
LINER MEASUREMENTS FEET FROM TO	COMMENTS		
LINER MEASUREMENTS FEET FROM TO		—— DRILLED T.D.	123 FT
TAGGED TOP OF J 87.25 TOP K-Packer ASS'Y Steel Nipple K-Packer STEEL BLANK STEEL BLANK TOP K-Packer ASS'Y Steel Nipple K-Packer STEEL BLANK TOP K-Packer ASS'Y Steel Nipple K-Packer STEEL BLANK TOP K-Packer ASS'Y Steel Nipple WC 3"X2" Reducer PVC SAND 2" Nipple PVC TRAP 2" Check Valve PVC Z" Nipple PVC Z" Z" Nipple PVC Z" Z" Nipple			
TAGGED TOP OF J 87.25 TOP K-Packer ASS'Y Steel Nipple K-Packer STEEL BLANK STEEL BLANK TOP K-Packer ASS'Y Steel Nipple K-Packer STEEL BLANK TOP K-Packer ASS'Y Steel Nipple K-Packer STEEL BLANK TOP K-Packer ASS'Y Steel Nipple WC 3"X2" Reducer PVC SAND 2" Nipple PVC TRAP 2" Check Valve PVC Z" Nipple PVC Z" Z" Nipple PVC Z" Z" Nipple			
TOP K-Packer ASS'Y Steel Nipple K-Packer STEEL BLANK		LINER MEASUREMENTS	
TOP K-Packer ASS'Y Steel Nipple K-Packer STEEL BLANK		FRE?	f FROM LTO
TOP K-Packer ASS'Y Steel Nipple K-Packer STEEL BLANK TOP ASS'Y Steel Nipple TOP ASS'Y STEEL			
ASS'Y Steel Nipple K-Packer STEEL BLANK STEEL BLANK 7 90.00 97.00 USEFUL DATA SCREEN 20 97.00 117.00 3" Casing PVC 3"X2" Reducer PVC SAND 2" Nipple PVC TRAP 2" Check Valve PVC 2" Nipple PVC 3" Nipple PVC 2" Nipple PVC 3" Nipple PVC 2" Nipple PVC 2" Nipple PVC 3" Nipple PVC 4" Ni			
TAGGED TOP OF J 87.25 STEEL BLANK	•	<u> </u>	75 87 25 90 00
BLANK	TAGGED TOP OF J 87.25		
BLANK			
BLANK			
USEFUL DATA SCREEN 3" Casing PVC 3"X2" Reducer PVC SAND 2" Nipple PVC TRAP 2" Check Valve PVC 2" Nipple PVC TRAP 2" Nipple PVC			
SCREEN 20 97.00 117.00		BLANK	7 90.00 97.00
SCREEN 20 97.00 117.00			
SCREEN 20 97.00 117.00			
3" Casing PVC 3"X2" Reducer PVC SAND 2" Nipple PVC TRAP 2" Check Valve PVC 2" Nipple PVC 117.00 122.00			
3" Casing PVC 3"X2" Reducer PVC SAND 2" Nipple PVC TRAP 2" Check Valve PVC 2" Nipple PVC 117.00 122.00	USEFUI, DATA	SCREEN	
3" Casing PVC 3"X2" Reducer PVC SAND 2" Nipple PVC TRAP 2" Check Valve PVC 2" Nipple PVC 117.00 122.00		JORGEN III	20 97.00 117.00
3" Casing PVC 3"X2" Reducer PVC SAND 2" Nipple PVC TRAP 2" Check Valve PVC 2" Nipple PVC 117.00 122.00			
3"X2" Reducer PVC SAND 2" Nipple PVC TRAP 2" Check Valve PVC 2" Nipple PVC 117.00 122.00		2" Cooing DVC	
SAND 2" Nipple PVC TRAP 2" Check Valve PVC 2" Nipple PVC 2" Nipple PVC 117.00 122.00			
2" Nipple PVC		SAND 2" Nipple PVC	
			00 117.00 122.00
2 CHECK VAIVE PVC			
		2 Check valver ve	+

well number OMW-7	DATE April 10, 2008	
LEASE BRAQUET AREA WEESATCHE	FIELD SUPV. Wentz/Bairu CONTRACTOR ALL TEXAS	
HOLE DIAMETER 9.875"		
CASING DIAMETER 5" REAMED DIAMETER 8"	HOLE MEASUREMEN	<u>iTS</u>
	-	REAMER:
LINER DATA		CONE BLADE 8"
PACKER TYPE Fig. K NUMBER 2 LINER DIAMETER 3"	-	
SCREEN TYPE REGULAR SLOT 0.01	_	
	CASING T.D.	90 FT.
GRAVEL		
SIZE N/A	UNDER-	91 FT.
SACKS CALCULATED N/A TAKEN N/A	REAMED	
	INTERVAL	113 FT.
COMMENTS	-	
•	DRILLED T.D.	119 FT.
	-	
	LINER MEASUREMEN	<u>rts</u>
	-	FEET FROM TO
		1221 110011
	J-Collar TOP K-Packer	
·	ASS'Y Steel Nipple	2.75 83.25 86.00
TAGGED TOP OF J 83.25	_ K-Packer	
	STEEL	
	BLANK	7 86.00 93.00
USEFUL DATA	SCREEN	
		20 93.00 113.00
	3" Casing PVC	
	3"X2" Reducer PVC SAND 2" Nipple PVC	
	TRAP 2" Check Valve PVC	5.00 113.00 118.00
	2" Nipple PVC 2" Check Valve PVC	
	2 Shock valve! ve	

WELL NUMBER OMW-8	DATE April 14, 2008	
LEASE BRAQUET AREA WEESATCHE	FIELD SUPV. Wentz/Bairu CONTRACTOR ALL TEXAS	
HOLE DIAMETER 9.875"		
CASING DIAMETER 5" REAMED DIAMETER 8"	HOLE MEASUREMENTS	
		REAMER:
LINER DATA		CONE
ENERDATA		BLADE 8"
PACKER TYPE Fig. K NUMBER 2		
LINER DIAMETER 3" SCREEN TYPE REGULAR SLOT 0.01		
3501 0.01		
<u>GRAVEL</u>	CASING T.D.	<u>89</u> FT.
SIZE N/A	UNDER-	90 FT.
SACKS CALCULATED N/A TAKEN N/A	REAMED	
	INTERVAL	110 ET
COMMENTS		<u>112</u> FT.
	DDILLED TO	
	DRILLED T.D.	118 FT.
	<u>LINER MEASUREMENTS</u>	
		I-massi
	FEET	FROM TO
	J-Collar	
	TOP K-Packer ASS'Y Steel Nipple 2.7	75 82.25 85.00
TAGGED TOP OF J 82.25	K-Packer	3 82.23 83.00
	STEEL	
	BLANK	7 85.00 92.00
•		
<u>USEFUL DATA</u>	SCREEN	
	<u>2</u>	92.00 112.00
	3" Casing PVC	
	3"X2" Reducer PVC SAND 2" Nipple PVC	
	" <u></u> 1	0 112.00 117.00
	2" Nipple PVC	112.00
	2" Check Valve PVC	

WELL NUMBER OMW-9	DATE April 15, 2008	***************************************
LEASE BRAQUET AREA WEESATCHE	FIELD SUPV. Wentz/Bairu CONTRACTOR ALL TEXAS	**************************************
HOLE DIAMETER 9.875"		
CASING DIAMETER 5" REAMED DIAMETER 8"	HOLE MEASUREMENTS	<u>\$</u>
ACTUAL DE WHETER		REAMER:
LINER DATA		CONE
LINER DATA		BLADE 8"
PACKER TYPE Fig. K NUMBER 2		
LINER DIAMETER 3" SCREEN TYPE REGULAR SLOT 0.01	1	
SCREEN ITTE REGULAR SLOT 0.01		
GRAVEL	CASING T.D.	84 FT.
SIZE N/A	UNDER-	85 FT.
SACKS CALCULATED N/A TAKEN N/A	REAMED	
	INTERVAL	107 ET
COMMENTS		107 FT.
	DRILLED T.D.	113 FT.
	A MANUAL ACTION AND ACTION AND ACTION AND ACTION AND ACTION ACTION AND ACTION A	α
	LINER MEASUREMENTS	2
	FI	EET FROM TO
	J-Collar 🔲	
	TOP K-Packer	
THE COURT WORLD	ASS'Y Steel Nipple	2.75 77.25 80.00
TAGGED TOP OF J 77.25	K-Packer	
	CONTRA	
	STEEL BLANK	7 80.00 87.00
	SCREEN	
USEFUL DATA	SCREEN	20 87.00 107.00
	-	20 87.00 107.00
	<u> </u>	
	3" Casing PVC 3"X2" Reducer PVC	
	SAND 2" Nipple PVC	
	TRAP 2" Check Valve PVC	5.00 107.00 112.00
	2" Nipple PVC 2" Check Valve PVC	
	2 CHECK VALVET VC	

WELL NUMBER BMW-1	DATE April 4, 2008	
LEASE BRAQUET AREA WEESATCHE	FIELD SUPV. Wentz	
HOLE DIAMETER 9.875"	CONTRACTOR ALL TEXAS	
CASING DIAMETER 5"		
REAMED DIAMETER 8"	HOLE MEASUREMEN	<u>ITS</u>
		REAMER:
LINER DATA		CONE
DINEXIDATA		BLADE 8"
PACKER TYPE Fig. K NUMBER 2		
LINER DIAMETER 3"		
SCREEN TYPE REGULAR SLOT 0.01		
<u>GRAVEL</u>	CASING T.D.	177 FT.
SIZE N/A	UNDER-	178 FT.
SACKS CALCULATED N/A TAKEN N/A	REAMED	
	INTERVAL	
COMMENTS		
	_	
	DRILLED T.D.	209_ FT.
	 [
	LINER MEASUREMEN	rs
		19
		FEET FROM TO
	- I College	
	J-Collar TOP K-Packer	
TIL CONT. Man. a	ASS'Y Steel Nipple	2.75 157.25 160.00
TAGGED TOP OF J 157.25	K-Packer	2.75 157.25 100.00
	STEEL	
	BLANK	7 160.00 167.00
	-	7 100.00 107.00
<u>USEFUL DATA</u>	SCREEN	
		20 167.00 187.00
	3" Casing PVC	
	3"X2" Reducer PVC	
	SAND 2" Nipple PVC	
	TRAP 2" Check Valve PVC	5.00 187.00 192.00
	2" Nipple PVC	10.100 102.00
	2" Check Valve PVC	

WELL NUMBER BMW-2	DATE April 3, 2008	
LEASE BRAQUET	FIELD SUPV. Wentz	
AREA WEESATCHE HOLE DIAMETER 9.875"	CONTRACTOR ALL TEXAS	
CASING DIAMETER 5"	HOLE MEASUREMENTS	
REAMED DIAMETER 8"	KOLD MENGOREMENTS	
	·	REAMER:
		CONE
<u>LINER DATA</u>		BLADE 8"
DACKED TABLE E: A MARGED O		
PACKER TYPE Fig. K NUMBER 2 LINER DIAMETER 3"		
SCREEN TYPE REGULAR SLOT 0.01		
JOSEPH TENERS OF THE PROPERTY		
	CASING T.D.	174 FT.
GRAVEL		
SIZE N/A	va inch	186 777
SACKS CALCULATED N/A TAKEN N/A	UNDER- REAMED	<u>175</u> FT.
INCKS ON COLUMN INCK	INTERVAL	
		204 FT.
COMMENTS		
	DRILLED T.D.	206 FT.

	LINER MEASUREMENTS	
	FEE	T FROM TO
	J-Collar	
	TOP K-Packer	
·	11 (2)	2.75 168.25 171.00
TAGGED TOP OF J 168.25	K-Packer	
	CONTEX	
	STEEL BLANK	7 171.00 178.00
	DLANK	7 171.00 178.00

<u>USEFUL DATA</u>	SCREEN	20 170 00 100 00
		20 178.00 198.00
	3" Casing PVC	
	3"X2" Reducer PVC	
	SAND 2" Nipple PVC	
	TRAP 2" Check Valve PVC	5.00 198.00 203.00
	2" Nipple PVC	
	2" Check Valve PVC	
	1	**************************************

WELL NUMBER BMW-3 LEASE BRAQUET	DATE April 2, 2008	
LEASE BRAQUET AREA WEESATCHE	FIELD SUPV. Wentz	
HOLE DIAMETER 9.875"	CONTRACTOR ALL TEXAS	
CASING DIAMETER 5"	HOLE MEASUREMENT	ГS
REAMED DIAMETER 8"		\$_\$.
		REAMER:
LINER DATA		CONE
		BLADE 8"
PACKER TYPE Fig. K NUMBER 2		
LINER DIAMETER 3" SCREEN TYPE REGULAR SLOT 0.01		
SCREEN TYPE REGULAR SLOT 0.01	—]	
	CASING T.D.	150 700
GRAVEL	O'LDI.	173 FT.
SIZE N/A		
SACKS CALCULATED N/A TAKEN N/A	UNDER-	<u>174</u> FT.
TAIL NA	REAMED INTERVAL	
	MILE CALL	203 FT.
COMMENTS		205
	- -	
	DRILLED T.D.	<u>205</u> FT.
	-	
	LINER MEASUREMENT	<u>'S</u>
	-	reem I movel mo
		EET FROM TO
	J-Collar	
•	TOP K-Packer	
TAGGED TOP OF J 166.25	ASS'Y Steel Nipple	2.75 166.25 169.00
	K-Packer	
	—	
	STEEL	
	BLANK .	7 169.00 176.00
USEFUL DATA	CODERY	
OSIA OD DATA	SCREEN	20 175 00 105 00
	-	20 176.00 196.00
	3" Casing PVC	
	3"X2" Reducer PVC	
	SAND 2" Nipple PVC TRAP 2" Check Valve PVC	500 10400 000
	2" Nipple PVC	5.00 196.00 201.00
	2" Check Valve PVC	
	_	

WELL NUMBER BMW-4	DATE April 2, 20				
LEASE BRAQUET		Wentz			
AREA WEESATCHE HOLE DIAMETER 9.875"	CONTRACTOR	ALL TEXAS			
CASING DIAMETER 5"	1	OLE MEASUREMENT	ГS		
REAMED DIAMETER 8"	=	COMMUNICATION OF STREET	110		
			J	REAME	R:
				CONE	
LINER DATA			J	BLADE	8"
D' II NITH DELL					
PACKER TYPE Fig. K NUMBER 2 LINER DIAMETER 3"					
SCREEN TYPE REGULAR SLOT 0.01					
JOIGEN III	1				
	CASING T.D.		_	161	FT.
GRAVEL					
	I D IDEO			1.60	DAD
SIZE N/A SACKS CALCULATED N/A TAKEN N/A	UNDER- REAMED		-	162	FT.
SACKS CALCULATED IVA TAKEN IVA	INTERVAL				
				191	FT.
COMMENTS			_		
	DRILLED T.D.		-	193	FT.
		•			
	L	INER MEASUREMEN	<u>TS</u>		
			,		
			FEET	FROM	TO
	J-Colla	. 🗂		1	
	TOP K-Pack			1	
	ASS'Y Steel N		2.75	154.25	157.00
TAGGED TOP OF J 154.25	K-Pack			İ	
	amerer			İ	
	STEEL BLANK		7	157.00	164.00
	DIANK	-		137.00	104.00
•				1	
	4	11			
•					
				1	
USEFUL DATA	SCREEN			164.00	104.00
		-		164.00	184.00
	3" Casing PV	c T			-,,
	3"X2" Reduce		1	-	
	SAND 2" Nipple PV		1		
	TRAP 2" Check Valv		5.00	184.00	189.00
	2" Nipple PV			Ì	
	2" Check Valv	/e PVC \			
				1	
			ļ		
		-			
		-			
	<u> </u>				

WELL NUMBER BMW-5	DATE April 3, 2008	
LEASE BRAQUET AREA WEESATCHE	FIELD SUPV. Wentz CONTRACTOR ALL TEXAS	
HOLE DIAMETER 9.875"	CONTRACTOR ALL TEXAS	
CASING DIAMETER 5" REAMED DIAMETER 8"	HOLE MEASUREMENTS	
REAMED DIAME LER 8		DE AMED.
		REAMER: CONE
LINER DATA		BLADE 8"
PACKER TYPE Fig. K NUMBER 2		
LINER DIAMETER 3"		
SCREEN TYPE REGULAR SLOT 0.01		
	CASING T.D.	4.50
GRAVEL	CABING 1.D.	172 FT.
SIZE N/A		
SACKS CALCULATED N/A TAKEN N/A	UNDER- REAMED	<u>173</u> FT.
A VAL	INTERVAL	
COMMENTS		202 FT.
COMMENTS		
	DRILLED T.D.	204 FT.
	LINER MEASUREMENTS	
		m mar1
	FEE	T FROM TO
	J-Collar	
	TOP K-Packer ASS'Y Steel Nipple	
TAGGED TOP OF J 155.25	ASS'Y Steel Nipple Z	2.75 155.25 158.00
•		
	STEEL	
	BLANK	7 158.00 165.00
USEFUL DATA	a contrary	
OSEFOL DATA	SCREEN	20 165.00 185.00
		20 165.00 185.00
	3" Casing PVC 3"X2" Reducer PVC	
	SAND 2" Nipple PVC	
	TRAP 2" Check Valve PVC 5	.00 185.00 190.00
	2" Nipple PVC	
	2" Check Valve PVC	
		_

WELL NUMBER BMW-6	DATEMarch 31, 2008	
LEASE BRAQUET AREA WEESATCHE	FIELD SUPV. Wentz	
HOLE DIAMETER 9.875"	CONTRACTOR ALL TEXAS	
CASING DIAMETER 5"	HOLE MEASUREMENTS	
REAMED DIAMETER 8"	HOLD MEADUREMEN IS	
	†	REAMER:
		CONE
LINER DATA		BLADE 8"
PACKER TYPE Fig. K NUMBER 2		
PACKER TYPE Fig. K NUMBER 2 LINER DIAMETER 3"		
SCREEN TYPE REGULAR SLOT 0.01		
	CASING T.D.	169 FT.
GRAVEL		
oran NA		
SIZE N/A SACKS CALCULATED N/A TAKEN N/A	UNDER-	170 FT.
SACKS CALCULATED N/A TAKEN N/A	REAMED	
	INTERVAL	ተባለ ይጥ
COMMENTS		199 FT.
	DRILLED T.D.	201 FT.
	<u>LINER MEASUREMENTS</u>	
	FEET	1-mosel mo
	TEL	FROM TO
	J-Collar	
	TOP K-Packer	
	ASS'Y Steel Nipple 2.75	162.25 165.00
TAGGED TOP OF J 162.25	K-Packer	1 1
	STEEL	
	H	132.00
	BLANK	165.00 172.00
		1
		
<u>USEFUL DATA</u>	SCREEN	
	20	172.00 192.00
	3" Casing PVC	
	3"X2" Reducer PVC	
	SAND 2" Nipple PVC	
	· 🛏 :	192.00 197.00
	2" Nipple PVC	194.00
	2" Check Valve PVC	
]	
	1	
		·
	<u> </u>	

WELL NUMBER BMW-7		28, 2008			
LEASE BRAQUET	FIELD SUPV. CONTRACTOR	Wentz ALL TEXAS			·····
AREA WEESATCHE HOLE DIAMETER 9.875"	CONTRACTOR	ALL TEXAS			
CASING DIAMETER 5"		HOLE MEASUREMEN	<u>VTS</u>		
REAMED DIAMETER 8"					
				EAME	₹:
LINER DATA				ONE BLADE	8"
LINER DATA			_		
PACKER TYPE Fig. K NUMBER 2					
LINER DIAMETER 3"					
SCREEN TYPE REGULAR SLOT 0.01					
	CASING T.D.		_	167	FT.
GRAVEL					
SIZE N/A	UNDER-			168	FT.
SACKS CALCULATED N/A TAKEN N/A	REAMED		-	100	
	INTERVAL				
201.0.00				197	FT.
COMMENTS					
	DRILLED T.D.			199	FT.
		LINER MEASUREME	VTS		
	·		120		
			FEET 1	FROM	TO
	10	Collar			
	II .	Packer .			
		el Nipple	2.75	160.25	163.00
TAGGED TOP OF J 160.25	K-I	Packer 🔀			
		Н			
	STEEL				
	BLANK		7	163.00	170.00
			1		
		j			

	C-1				
<u>USEFUL DATA</u>	SCREEN		20		100.00
			20	170.00	190.00
	3" Casing				
		educer PVC			
	SAND 2" Nipple TRAP 2" Check	Valve PVC	5.00	190.00	195.00
	2" Nipple		3.00	190.00	193.00
		Valve PVC	1		
		المسية			
			1		

WELL NUMBER BMW-8	DATE March 27, 2008	
LEASE BRAQUET AREA WEESATCHE	FIELD SUPV. Wentz CONTRACTOR ALL TEXAS	·
HOLE DIAMETER 9.875"	CONTRACTOR ALL TEAS	
CASING DIAMETER 5"	HOLE MEASUREMENTS	
REAMED DIAMETER 8"		DEALER
		REAMER: CONE
LINER DATA		BLADE 8"
PACKER TYPE Fig. K NUMBER 2 LINER DIAMETER 3"		
SCREEN TYPE REGULAR SLOT 0.01		
OD ANTES	CASING T.D.	<u>163</u> FT.
GRAVEL		
SIZE N/A	UNDER-	164 FT.
SACKS CALCULATED N/A TAKEN N/A	REAMED	
	INTERVAL	102 ET
COMMENTS		<u>193</u> FT.
	DRILLED T.D.	195 FT.
	LINER MEASUREMENTS	
	FEET	FROM TO
	PEST	TROM TO
	J-Collar	
•	TOP K-Packer	
TAGGED TOP OF J 155.25	ASS'Y Steel Nipple 2.7 K-Packer	5 155.25 158.00
	CONTRACT	
	STEEL BLANK	7 158.00 165.00
		1 150.00 105.00
		1 1
		
<u>USEFUL DATA</u>	SCREEN	
		0 165.00 185.00
	3" Casing PVC	
	3"X2" Reducer PVC	
	SAND 2" Nipple PVC	
	TRAP 2" Check Valve PVC 5.00	0 185.00 190.00
	2" Nipple PVC	
	2" Check Valve PVC	4
]
•		
		<u> </u>

WELL NUMBER BMW-9	DATE March 26, 2008	
LEASE BRAQUET	FIELD SUPV. Wentz	
AREA WEESATCHE	CONTRACTOR ALL TEXAS	
HOLE DIAMETER 9.875"	1	
CASING DIAMETER 5" REAMED DIAMETER 8"	HOLE MEASUREMENTS	
REAMED DIAMETER 8"		DEAMED.
		REAMER: CONE
LINER DATA		BLADE 8"
<u> </u>		BLADE 6
PACKER TYPE Fig. K NUMBER 2		
LINER DIAMETER 3"		
SCREEN TYPE REGULAR SLOT 0.01		
	1	
	CASING T.D.	165 FT.
GRAVEL		
SIZE N/A	UNDER-	<u>166</u> FT.
SACKS CALCULATED N/A TAKEN N/A	REAMED	
,	INTERVAL	105 550
COMMENTS		195 FT.
COMMINITY		
	DRILLED T.D.	197 FT.
		12/ 11.
		•
	<u>LINER MEASUREMENTS</u>	
	FEET	FROM TO
	I Calling D	
	J-Collar V. D. J.	
•	TOP K-Packer ASS'Y Steel Nipple 2.	75 150 05 161 00
TAGGED TOP OF J 158.25	K-Packer	75 158.25 161.00
130.25	K-Facket	
	—	
	STEEL	1 1
•	BLANK	7 161.00 168.00
		7
	1	
<u>USEFUL DATA</u>	SCREEN	
		20 168.00 188.00
	3" Casing PVC	
	3"X2" Reducer PVC	
	SAND 2" Nipple PVC TRAP 2" Check Valve PVC 5.0	
		00 188.00 193.00
	2" Nipple PVC	
	2" Check Valve PVC	
		-
	<u> </u>	

WELL NUMBER BMW-10	DATE March 17, 2008	
LEASE BRAQUET AREA WEESATCHE	FIELD SUPV. Wentz	
HOLE DIAMETER 9.875"	CONTRACTOR ALL TEXAS	
CASING DIAMETER 5"	HOLE MEASUREMEN	rne
REAMED DIAMETER 8"	HODE MEASUREMEN	115
	_	REAMER:
LINER DATA		CONE
		BLADE 8"
PACKER TYPE Fig. K NUMBER 2		
LINER DIAMETER 3"		
SCREEN TYPE REGULAR SLOT 0.01		
	CACRICTR	
GRAVEL	CASING T.D.	162 FT.
OTOT		
SIZE N/A SACKS CALCULATED N/A TAKEN N/A	UNDER-	163 FT.
SACKS CALCULATED N/A TAKEN N/A	REAMED	
	INTERVAL	100
COMMENTS		192 FT.
	_	
	DRILLED T.D.	194 FT.
	-	
	LINER MEASUREMENT	ГS
	-	
	-	FEET FROM TO
	J-Collar	
	TOP K-Packer	
TAGGED TOP OF J 155.25	ASS'Y Steel Nipple	2.75 155.25 158.00
TAGGED TOP OF J 155.25	_ K-Packer 🔀	
	STEEL	
	BLANK	7 158.00 165.00
•		
	_	
YARRY R		
USEFUL DATA	SCREEN	
		20 165.00 185.00
	3" Casing PVC	
	3"X2" Reducer PVC	
	SAND 2" Nipple PVC	
	TRAP 2" Check Valve PVC	5.00 185.00 190.00
	2" Nipple PVC 2" Check Valve PVC	
	2 Check valve PVC _	

WELL NUMBER BMW-11	DATE March 25, 2008	
LEASE BRAQUET AREA WEESATCHE	FIELD SUPV. Wentz	
HOLE DIAMETER 9.875"	CONTRACTOR ALL TEXAS	
CASING DIAMETER 5"	HOLE ME A CAID AND ALL MAN	,
REAMED DIAMETER 8"	HOLE MEASUREMENTS	
		REAMER:
I DIED DATA		CONE
<u>LINER DATA</u>		BLADE 8"
PACKER TYPE Fig. K NUMBER 2		·····
PACKER TYPE Fig. K NUMBER 2 LINER DIAMETER 3"		
SCREEN TYPE REGULAR SLOT 0.01		
		
CD AXIDY	CASING T.D.	144 FT.
GRAVEL		
SIZE N/A	LO TO CO	
SACKS CALCULATED N/A TAKEN N/A	UNDER- REAMED	145 FT.
TALL TALL	INTERVAL	
	THE COMMENT	174 FT.
COMMENTS		174 FT.
	_ [
	DRILLED T.D.	176 FT.
	-	
	LINER MEASUREMENTS	
	FE	ET FROM TO
	-	
	J-Collar TOP K-Packer	
	TOP K-Packer ASS'Y Steel Nipple	0.55
TAGGED TOP OF J 137.25	K-Packer	2.75 137.25 140.00
	- 	
	STEEL	
	BLANK	7 140.00 147.00
·		
LIGHTER DAMA		
<u>USEFUL DATA</u>	SCREEN	
		20 147.00 167.00
	3" Casing PVC	
	3"X2" Reducer PVC	
	SAND 2" Nipple PVC	
		5.00 167.00 172.00
	2" Nipple PVC	107.00 172.00
	2" Check Valve PVC	
		, , , , , , , , , , , , , , , , , , ,

WELL NUMBER BMW-12	DATE March 19, 2008	
LEASE BRAQUET	FIELD SUPV. Wentz CONTRACTOR ALL TEXAS	
AREA WEESATCHE	CONTRACTOR ALL TEXAS	
HOLE DIAMETER 9.875" CASING DIAMETER 5"	HOLE MEASUREMENT	<u>'S</u>
REAMED DIAMETER 8"		
		REAMER:
	1	CONE BLADE 8"
LINER DATA		DEADE 0
PACKER TYPE Fig. K NUMBER 2		
LINER DIAMETER 3"		
SCREEN TYPE REGULAR SLOT 0.01	_	
	CASING T.D.	142 FT.
GRAVEL	CASING I.D.	
GRAVEL		
SIZE N/A	UNDER-	<u>143</u> FT.
SACKS CALCULATED N/A TAKEN N/A	REAMED	
	INTERVAL	172 FT.
COMMENTS		
COMMUNICATIO		
	DRILLED T.D.	<u>174</u> FT.
	-	
	LINER MEASUREMEN	<u>rs</u>
		FEET FROM TO
	- J-Collar	
	TOP K-Packer	
	ASS'Y Steel Nipple	2.75 135.25 138.00
TAGGED TOP OF J 135.25	K-Packer	
	STEEL	
	BLANK	7 138.00 145.00
USEFUL DATA	SCREEN	
<u> </u>	_	20 145.00 165.00
	3" Casing PVC	
	3"X2" Reducer PVC	
	SAND 2" Nipple PVC	
	TRAP 2" Check Valve PVC	5.00 165.00 170.00
	2" Nipple PVC	
	2" Check Valve PVC	
	-	

WELL NUMBER BMW-13	DATEMarch 18, 2008	
LEASE BRAQUET	FIELD SUPV. Wentz	
AREA WEESATCHE HOLE DIAMETER 9.875"	CONTRACTOR ALL TEXAS	
CASING DIAMETER 5"	- 9	
REAMED DIAMETER 8"	HOLE MEASUREMENTS	
ALBERTAL O	-	REAMER:
T INITED TO ATT A		CONE
LINER DATA		BLADE 8"
PACKER TYPE Fig. K NUMBER 2		
LINER DIAMETER 3"		
SCREEN TYPE REGULAR SLOT 0.01		
	,	
GRAVEL	CASING T.D.	156 FT.
SIZE N/A		
SACKS CALCULATED N/A TAKEN N/A	UNDER-	157 FT.
DITOLD OF MOURILLES AVEN	REAMED INTERVAL	
	HNIERVAL	10 4 ET
COMMENTS		<u>186</u> FT.
	DRILLED T.D.	188 FT.
	Y TRIEST A CHIDER MENTED	
	LINER MEASUREMENTS	
	FEE	T FROM TO
		1 INOIN 10
	J-Collar	
	TOP K-Packer	
COORD CO OF COORD	ASS'Y Steel Nipple	2.75 150.25 153.00
TAGGED TOP OF J 150.25	K-Packer	
	├ ── ├	
	STEEL	
	BLANK	7 152 00 160 00
	DLANA	7 153.00 160.00
TOTAL DATE		
<u>USEFUL DATA</u>	SCREEN	
		20 160.00 180.00
	3" Casing PVC	
	3"X2" Reducer PVC	
	SAND 2" Nipple PVC	
]]	.00 180.00 185.00
	2" Nipple PVC	.00 180.00 185.00
	2" Check Valve PVC	
		
		i i ,

WELL NUMBER BMW-14	DATE March 25, 2008	
LEASE BRAQUET AREA WEESATCHE	FIELD SUPV. Wentz	
HOLE DIAMETER 9.875"	CONTRACTOR ALL TEXAS	
CASING DIAMETER 5"	HOLE MEASUREMENTS	
REAMED DIAMETER 8"	HOLE MEASUREMENTS	
		REAMER:
LINER DATA		CONE BLADE 8"
		BLADE 8"
PACKER TYPE Fig. K NUMBER 2		
LINER DIAMETER 3" SCREEN TYPE REGULAR SLOT 0.01		
SCREEN TYPE REGULAR SLOT 0.01		
<u>GRAVEL</u>	CASING T.D.	<u>165</u> FT.
SIZE N/A	LA VENEZA	
SACKS CALCULATED N/A TAKEN N/A	UNDER- REAMED	<u>166</u> FT.
	INTERVAL	
COLO CINTO		195 FT.
COMMENTS		
	DRILLED T.D.	107 77
	DRULLD 1.D.	<u>197</u> FT.
	<u>LINER MEASUREMENTS</u>	
	FEET	FROM TO
	J-Collar TOD	
•	TOP K-Packer ASS'Y Steel Nipple 2.7	150 25 161 00
TAGGED TOP OF J 158.25	K-Packer	5 158.25 161.00
	H	
	CONCON	
	STEEL BLANK	7 161.00 168.00
		7 161.00 168.00
<u>USEFUL DATA</u>	SCREEN	
	20	0 168.00 188.00
	3" Casing PVC 3"X2" Reducer PVC	
	SAND 2" Nipple PVC	
·	· · · ·	188.00 193.00
	2" Nipple PVC	166.00 193.00
	2" Check Valve PVC	
		
		-

WELL NUMBER BMW-15	DATE March 24, 2008	
LEASE BRAQUET	FIELD SUPV. Wentz	
AREA WEESATCHE	CONTRACTOR ALL TEXAS	
HOLE DIAMETER 9.875"	Troy or a troy o	
CASING DIAMETER 5"	HOLE MEASUREMENTS	
REAMED DIAMETER 8"		REAMER:
		CONE
LINER DATA		BLADE 8"
<u>EINER DATA</u>		DEADE 0
PACKER TYPE Fig. K NUMBER 2		
LINER DIAMETER 3"		
SCREEN TYPE REGULAR SLOT 0.01		•
	CASING T.D.	178 FT.
GRAVEL		
SIZE N/A	UNDER-	<u>179</u> FT.
SACKS CALCULATED N/A TAKEN N/A	REAMED INTERVAL	
	UVIERVAL	208 FT.
COMMENTS		
COMMENTS		
	DRILLED T.D.	210 FT.
		
		•
	LINER MEASUREMENTS	
		m Irroad ma
	FEE	T FROM TO
	J-Collar	
	TOP K-Packer	
•		2.75 171.25 174.00
TAGGED TOP OF J 171,25	K-Packer	171.23
INOULD TOT OT 171,23	H H	
	STEEL	
	BLANK	7 174.00 181.00
<u>USEFUL DATA</u>	SCREEN	
		20 181.00 201.00
	3" Casing PVC	
	3"X2" Reducer PVC	
	SAND 2" Nipple PVC	
		5.00 201.00 206.00
	2" Nipple PVC	201.00
	2" Check Valve PVC	
	2 Chook raiver to L	
	54 1	

WELL NUMBER BMW-16	DATE March 20, 2008	
LEASE BRAQUET AREA WEESATCHE	FIELD SUPV. Wentz	
HOLE DIAMETER 9.875"	CONTRACTOR ALL TEXAS	
CASING DIAMETER 5"	n	
REAMED DIAMETER 8"	HOLE MEASUREMENTS	<u>S</u>
	-	
		REAMER: CONE
LINER DATA		BLADE 8"
PACKER TYPE Fig. K NUMBER 2		DOLLDE C
PACKER TYPE Fig. K NUMBER 2 LINER DIAMETER 3"	_	
SCREEN TYPE REGULAR SLOT 0.01		
0.01	- [
	CASING T.D.	174 FT.
GRAVEL		
SIZE N/A		
SACKS CALCULATED N/A TAKEN N/A	UNDER-	175 FT.
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	_ REAMED INTERVAL	
	THE COLUMN THE COLUMN	204 FT.
COMMENTS	_	204 FT.
	-	
	DRILLED T.D.	206 FT.
	·] .	
	LINER MEASUREMENTS	
		ET FROM TO
	J-Collar	
	TOP K-Packer	
TACCED TOD ON V	ASS'Y Steel Nipple	2.75 167.25 170.00
TAGGED TOP OF J 167.25	K-Packer	107,23
	STEEL	
	BLANK	7 170.00 177.00
•	_	7 170.00 177.00
·		
<u>USEFUL DATA</u>	SCREEN	
		20 177.00 197.00
		20 177.00 197.00
	3" Casing PVC	
	3"X2" Reducer PVC SAND 2" Nipple PVC	
	1 mm + m =	
	2" Nipple PVC	5.00 197.00 202.00
	2" Check Valve PVC	

WELL NUMBER BMW-17	DATE March 24, 2008	
LEASE BRAQUET	FIELD SUPV. Wentz	
AREA WEESATCHE HOLE DIAMETER 9.875"	CONTRACTOR ALL TEXAS	
CASING DIAMETER 5"	HOLE MEASUREMENTS	
REAMED DIAMETER 8"	HOLE MEASUREMENTS	
		REAMER:
		CONE
LINER DATA		BLADE 8"
PACKER TYPE Fig. K NUMBER 2		
LINER DIAMETER 3"		
SCREEN TYPE REGULAR SLOT 0.01		
	·	
CD AXTO	CASING T.D.	159 FT.
GRAVEL		
SIZE N/A	UNDER-	160 FT.
SACKS CALCULATED N/A TAKEN N/A	REAMED	
	INTERVAL	
601 B (TI) mg		189 FT.
COMMENTS		
	DRILLED T.D.	191 FT.
	Pictable 1.5.	
And the state of t		
	<u>LINER MEASUREMENTS</u>	
	FEET	FROM TO
	1131)	TROW 10
	J-Collar	
	TOP K-Packer	
TACCED TODOE I 100 AC		75 153.25 156.00
TAGGED TOP OF J 153.25	K-Packer	
	STEEL	
	BLANK	7 156.00 163.00
		
<u>USEFUL DATA</u>	SCREEN	
	2	163.00 183.00
	3" Casing PVC	
	3"X2" Reducer PVC	
	SAND 2" Nipple PVC	
	li	0 183.00 188.00
	2" Nipple PVC	7
	2" Check Valve PVC	
		⊣

WELL NUMBER BMW-18	DATE March 20, 2008	
LEASE BRAQUET AREA WEESATCHE	FIELD SUPV. Wentz	
HOLE DIAMETER 9.875"	CONTRACTOR ALL TEXAS	
CASING DIAMETER 5"	HOLE MEASUREMENTS	
REAMED DIAMETER 8"	***************************************	
		REAMER:
* D TOD TO A TO A		CONE
LINER DATA		BLADE 8"
PACKER TYPE Fig. K NUMBER 2		
LINER DIAMETER 3"		
SCREEN TYPE REGULAR SLOT 0.01		
-	CASING T.D.	<u>162</u> FT.
GRAVEL		
SIZE N/A	r in trans	160 777
SACKS CALCULATED N/A TAKEN N/A	UNDER- REAMED	<u>163</u> FT.
ALADAT AVAL	INTERVAL	
		192 FT.
COMMENTS		
	DRILLED T.D.	<u>194</u> FT.
•		
	LINER MEASUREMENTS	
	AND MARK PARKET VALUE OF THE PARKET OF THE P	
	FEET	FROM TO
	_	
	J-Collar	
	TOP K-Packer	
TAGGED TOP OF J 155.25		75 155.25 158.00
1AGGED 101 OF 3 133.23	K-Packer	
		
	STEEL	
	BLANK	7 158.00 165.00
		7
		<u> </u>
<u>USEFUL DATA</u>	SCREEN	
	H III	20 165.00 185.00
		20 103.00 103.00
	3" Casing PVC	
	3"X2" Reducer PVC	
	SAND 2" Nipple PVC	
	TRAP 2" Check Valve PVC	00 185.00 190.00
	2" Nipple PVC	
	2" Check Valve PVC	
		-

WELL NUMBER BMW-19 LEASE BRAQUET	DATE April 8, 2008	
LEASE BRAQUET AREA WEESATCHE	FIELD SUPV. Wentz	
HOLE DIAMETER 9.875"	CONTRACTOR ALL TEXAS	
CASING DIAMETER 5"	HOLE PASS CAMPAGNATURE	
REAMED DIAMETER 8"	HOLE MEASUREMENTS	
		DEALGED.
		REAMER: CONE
LINER DATA		BLADE 8"
D. Carren Carren		DD/102 0
PACKER TYPE Fig. K NUMBER 2		
LINER DIAMETER 3" SCREEN TYPE REGULAR SLOT 0.01		
SCREEN TYPE REGULAR SLOT 0.01		
	CACRICER	
GRAVEL	CASING T.D.	<u>186</u> FT.
SIZE N/A	UNDER-	187 FT.
SACKS CALCULATED N/A TAKEN N/A	REAMED	16/ F1.
	INTERVAL	
COMMENTS		216 FT.
COMMENTS		
	DDE LED MD	
	DRILLED T.D.	218 FT.
	LINER MEASUREMENTS	
	FEET	FROM TO
	J-Collar	
	TOP K-Packer	
TAGGED TOP OF J 161.25	ASS'Y Steel Nipple 2.7	5 161.25 164.00
101.60	K-Packer	
	STEEL	
·	1 1 1	7 164.00 171.00
		104.00 171.00
<u>USEFUL DATA</u>		
OSEFUL DATA	SCREEN	
	2	0 171.00 191.00
	3" Casing PVC	+
	3"X2" Reducer PVC	
	SAND 2" Nipple PVC	
	* ** * 1	191.00 196.00
	2" Nipple PVC	191.00 190.00
	2" Check Valve PVC	
		
]

WELL NUMBER BMW-20	DATE April 8, 2008	
LEASE BRAQUET AREA WEESATCHE	FIELD SUPV. Wentz	
HOLE DIAMETER 9.875"	CONTRACTOR ALL TEXAS	
CASING DIAMETER 5"	MOVE WATER CALLED	
REAMED DIAMETER 8"	HOLE MEASURE	MENTS
		REAMER:
<u>LINER DATA</u>		CONE
DATE DATE I		BLADE 8"
PACKER TYPE Fig. K NUMBER 2		
LINER DIAMETER 3"	—	
SCREEN TYPE REGULAR SLOT 0.01		
GRAVEL	CASING T.D.	164 FT.
SIZE N/A	UNDER-	165 FT.
SACKS CALCULATED N/A TAKEN N/A	REAMED	165 FT.
	INTERVAL	
COMMENTS		<u>194</u> FT.
	-	
	DRILLED T.D.	196 FT.
	_	
	Y INDED BATE A CUID FOR	- CENTAGE
	LINER MEASUREM	MENTS
		FEET FROM TO
	J-Collar TOP K-Packer	
	TOP K-Packer ASS'Y Steel Nipple	0.77
TAGGED TOP OF J 157.25	K-Packer	2.75 157.25 160.00
	- L A	
	STEEL	
	BLANK	
		7 160.00 167.00
<u>USEFUL DATA</u>	SCREEN	
		20 167.00 187.00
		20/10/.00 18/.00
	3" Casing PVC	
	3"X2" Reducer PVC SAND 2" Nipple PVC	
	TRAP 2" Check Valve PVC	5 00 197 00 100 00
	2" Nipple PVC	5.00 187.00 192.00
	2" Check Valve PVC	
	1	

WELL NUMBER BMW-21 LEASE BRAQUET	DATE April 7, 2008	
AREA WEESATCHE	FIELD SUPV. Wentz	
HOLE DIAMETER 9.875"	CONTRACTOR ALL TEXAS	·
CASING DIAMETER 5"	HOLE MEASUREME	wre
REAMED DIAMETER 8"	HOLE MEASUREME	WIP
		REAMER:
LINER DATA		CONE
		BLADE 8"
PACKER TYPE Fig. K NUMBER 2		
LINER DIAMETER 3"	—	
SCREEN TYPE REGULAR SLOT 0.01		
	_	
GRAVEL	CASING T.D.	174 FT.
Sec. 1 and		***************************************
SIZE N/A	UNDER-	
SACKS CALCULATED N/A TAKEN N/A	REAMED	<u>175</u> FT.
	INTERVAL	
COMMENTS		204 FT.
COMMITTEE	_	
	DRILLED T.D.	
	DRULED 1.D.	
	LINER MEASUREMEN	₹TS
		FEET FROM TO
	J-Collar 🗍	
	TOP K-Packer	
TAGGED TOP OF J 168.25	ASS'Y Steel Nipple	2.75 168.25 171.00
100.23	K-Packer	
	<u> </u>	
	STEEL	
	BLANK	7 171.00 178.00
<u>USEFUL DATA</u>	SCREEN	
		20 178.00 198.00
	•	
	3" Casing PVC	
	3"X2" Reducer PVC SAND 2" Nipple PVC	
	TRAP 2" Check Valve PVC	5.00 100.00 000.00
	2" Nipple PVC	5.00 198.00 203.00
	2" Check Valve PVC	
	_	
· ,		
	_	

WELL NUMBER	BMW-22	DATEApril 8, 2008	
LEASE BRAQUET AREA WEESATC	· ·	FIELD SUPV. Wentz	
HOLE DIAMETER	9.875"	CONTRACTOR ALL TEXAS	
CASING DIAMETER	5"	TOY TO A TO A CONTROL OF THE CONTROL	
REAMED DIAMETER	8"	HOLE MEASUREMEN	<u>TS</u>
		—	REAMER:
I TAITED TO A TO A			CONE
LINER DATA			BLADE 8"
PACKER TYPE	Fig. K NUMBER 2	# #	
LINER DIAMETER	3" NOWBER 2		
	EGULAR SLOT 0.01		
GRAVEL		CASING T.D.	176 FT.
SIZE N/A		1	
SACKS CALCULATED	N/A TAKEN N/A	UNDER-	177 FT.
	IAKEN IVA	REAMED INTERVAL	
		INTERVAL	207 Lab
COMMENTS			
		_	
		DRILLED T.D.	208 FT.
		-	
		LINER MEASUREMENT	<u>rs</u>
			EET FROM TO
			ZZZ ZROW 10
		J-Collar	
		TOP K-Packer	
TAGGED TOP OF J	170.25	ASS'Y Steel Nipple K-Packer	2.75 170.25 173.00
•		- K-racket	
		_ - -	
		STEEL	
		BLANK	7 173.00 180.00
	•		
			
	VIOLENT TO LOCAL		
	USEFUL DATA	SCREEN	
		_	20 180.00 200.00
		3" Casing PVC	
		3"X2" Reducer PVC	
		SAND 2" Nipple PVC	
		TRAP 2" Check Valve PVC	5.00 200.00 205.00
		2" Nipple PVC	
		2" Check Valve PVC	
-			

रE:	03/18/08			
vvELL NO:	32201 BMW-1			
LEASE:	BRAQUET			f
AREA:	WEESATCHE			
COUNTY:	GOLIAD			
DRILLING DAT	A:			
	DRILLER: RODNEY	•	COMPANY	DIGGS DRILLING
	REAMED DEPTH: 17	7	DRIFT	
	HOLE SIZE: 9.87	5"	MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME			
REMARKS:	Centralizers at 17,57,97,137			
	•			
SING				
	JOINTS10	<u>0</u>		
	TOP JOINT			
SURFACE ELE	VATION	228.51		
	G ABOVE SURFACE	230.72		
CEMENT				
	BARRELS CEMENT	<u> </u>	SACKS CEMENT	40
	TYPE CEMENT	0	LB GEL	50
	LB CACL2	0_	CEMENT WT.	13.4
DIODI ACEMEN	· T			
DISPLACEMEN		4.0	DADITE CACKO	0.00
	BBL FLUID	4.0	BARITE SACKS	
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS		

· Œ:	03/18/08	<u></u>		
VELL NO:	32201 BMW-2			
EASE:	BRAQUET			
AREA:	WEESATCHE			
COUNTY:	GOLIAD			
ORILLING DA	TA:			
	DRILLER: RODN	EY	COMPANY	DIGGS DRILLING
	REAMED DEPTH:	174	DRIFT	
	HOLE SIZE: 9.	875"	MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME			
REMARKS:	Centralizers at 15,55,95,13	5		
		A		

BING				
	JOINTS	9		
	TOP JOINT			
DUDEAGE EL	C) (ATION	228.93		
SURFACE EL				
TOP OF CASI	NG ABOVE SURFACE	231.16		
CEMENT				
	BARRELS CEMENT	0	SACKS CEMENT	39
	TYPE CEMENT	0	LB GEL	50
			CEMENT WT.	13.4
	LB CACL2	0	CEIVICINI VVI.	13.4
DISPLACEME	ENT			
	BBL FLUID	4.0	BARITE SACKS	0.00
	GEL SACKS	0.00	RETURNS	YES
		BRICE BAROS		
	CEMENTER	DIVICE DVLCO		

E:	03/14/08			
WELL NO:	32201 BMW-3			
LEASE:	BRAQUET			
AREA:	WEESATCHE	-		
COUNTY:	GOLIAD			
DRILLING DATA	:			
	DRILLER: RODNEY		COMPANY	DIGGS DRILLING
	REAMED DEPTH: 173		DRIFT	
	HOLE SIZE: 9.875"		MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME			
REMARKS:	Centralizers at 14,54,94,134			
KLIMAKKO.	Centralizers at 14,04,04,104			•
ING				
, ,,,,,,				
	JOINTS 9			
	TOP JOINT		•	
SURFACE ELEV	ATION	228.99		
TOP OF CASING	ABOVE SURFACE	231.44		
CEMENT				
	BARRELS CEMENT	0	SACKS CEMENT	39
	TYPE CEMENT	0	LB GEL	50
	LB CACL2		CEMENT WT.	13.4
				
DISPLACEMENT	Ţ			
	BBL FLUID	4.0	BARITE SACKS	0.00
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	ALAN		

E:	03/13/08			
WELL NO:	32201 BMW-4			
LEASE:	BRAQUET			
AREA:	WEESATCHE			
COUNTY:	GOLIAD	-		
DRILLING DATA	:			
	DRILLER: ALONZO R	AMERO	COMPANY	DIGGS DRILLING
	REAMED DEPTH: 161		DRIFT	
	HOLE SIZE: 9.875"		MUD-TYPE:	PHP/GEL
	VIS:	Miles visit and the Market of the Control of the Co	WEIGHT	8.8#/GA
	DRILLING TIME	w		
REMARKS:	Centralizers at 6,46,86,126			
NEWATTO.	Centralizers at 0,40,00,120			
. ING				
. , , , , , , , , , , , , , , , , , , ,				
	JOINTS 9			
	TOP JOINT			
SURFACE ELEV	ATION	233.52		
TOP OF CASING	ABOVE SURFACE	236.25		
CEMENT				•
	BARRELS CEMENT	0	SACKS CEMENT	37
	TYPE CEMENT	0	LB GEL	50
	LB CACL2	0	CEMENT WT.	13.4
DISPLACEMENT	г			
	BBL FLUID	4.0	BARITE SACKS	0.00
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS		

Æ:	03/06/08	44 4444-44-4		
WELL NO:	32201 BMW-5			
EASE:	BRAQUET			
AREA:	WEESATCHE			
COUNTY:	GOLIAD			
ORILLING DAT	ΓA:			
	DRILLER: ALON	ZO RAMERO	COMPANY	DIGGS DRILLING
	REAMED DEPTH:	172	DRIFT	4
	HOLE SIZE: 9	.875"	MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME			
REMARKS:	Centralizers at 13,53,93,1	33		
LINAKKS.	Centralizers at 10,00,00,1	30		
	-			
ING				
•	JOINTS	9		
	TOP JOINT			
	7.4.7.0.1	000.07		
SURFACE ELE		236.07		
IOP OF CASIN	IG ABOVE SURFACE	238.37		
CEMENT				
	BARRELS CEMENT	0	SACKS CEMENT	39
	TYPE CEMENT	0	LB GEL	50
	LB CACL2	0	CEMENT WT.	13.4
DISPLACEMEI	NT			
	BBL FLUID	4.0	BARITE SACKS	0.00
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS		

TE:	03/04/08				
VELL NO:	32201 BMW-6				
EASE:	BRAQUET				
REA:	WEESATCHE				
COUNTY:	GOLIAD				
RILLING DATA	\ :				
	DRILLER:	ALONZO R	AMERO	COMPANY	DIGGS DRILLING
	REAMED DEPTH:	169		DRIFT	
	HOLE SIZE:	9.875"		MUD-TYPE:	PHP/GEL
	VIS:			WEIGHT	8.8#/GA
	DRILLING TIME				
		-0.00.400			
REMARKS:	Centralizers at 10,5	50,90,130			
SING					
	JOINTS	9			
	TOP JOINT				
SURFACE ELE	VATION		234.48		
TOP OF CASING	G ABOVE SURFACE	Ē	236.91		
CEMENT	DARRELO OFMEN		0	SACKS CEMENT	38
	BARRELS CEMEN	41	0	SACKS CEMENT	
	TYPE CEMENT		0	LB GEL	50
	LB CACL2		0	CEMENT WT.	13.4
DISPLACEMEN	i T				
	BBL FLUID		4.0	BARITE SACKS	0.00
	GEL SACKS		0.00	RETURNS	YES
	CEMENTER		BRICE BAROS		
	OFINIFIA FIX		2. 10 L 3/1100		

`E:	03/03/08			
WELL NO:	32201 BMW-7			
LEASE:	BRAQUET			
AREA:	WEESATCHE			
COUNTY:	GOLIAD			
DRILLING DAT	ΓA:			
	DRILLER: ALONZ	O RAMERO	COMPANY	DIGGS DRILLING
	REAMED DEPTH:1	167	DRIFT	
	HOLE SIZE: 9.8	375"	MUD-TYPE:	PHP/GEL
	VIS:	ALCOHOL STATE OF THE STATE OF T	WEIGHT	8.8#/GA
	DRILLING TIME			
REMARKS:	Centralizers at 7,47,87,127			
TEMPATO.				-
				Anni Malani per e e
SING				
	JOINTS	9_		
	TOP JOINT			
SURFACE ELE	EVATION :	236.78		
	NG ABOVE SURFACE	239.66		
TOP OF CAGI	O ABOVE CONTACE			
CEMENT				,
	BARRELS CEMENT	0	SACKS CEMENT	38
	TYPE CEMENT	0	LB GEL	50
	LB CACL2	0	CEMENT WT.	13.4
DISPLACEME				0.05
	BBL FLUID	4.0	BARITE SACKS	0.00
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS		

E:	02/29/08				
WELL NO:	32201 BMW-8				
LEASE:	BRAQUET				
AREA:	WEESATCHE				
COUNTY:	GOLIAD				
DRILLING DATA	٨:				
	DRILLER:	ALONZO R	AMERO	COMPANY	DIGGS DRILLING
	REAMED DEPTH:	163		DRIFT	
	HOLE SIZE:	9.875"		MUD-TYPE:	PHP/GEL
	VIS:			WEIGHT	8.8#/GA
	DRILLING TIME				
REMARKS:	Centralizers at 5,45	5, 85 ,125			
ING					
	JOINTS	9			
	TOP JOINT		•		
SURFACE ELEV	/ATION		229.29		
	ABOVE SURFACE		231.25		
TOP OF CASING	ABOVE SURFACE		231.23		
CEMENT					
	BARRELS CEMEN	ΙΤ	0	SACKS CEMENT	37
	TYPE CEMENT		0	LB GEL	50_
	LB CACL2		0	CEMENT WT.	13.4
DISPLACEMEN	Т				
	BBL FLUID		4.0	BARITE SACKS	0.00
	GEL SACKS		0.00	RETURNS	YES
	CEMENTER		BRICE BAROS		

Œ:	02/28/08	-		
WELL NO:	32201 BMW-9	_		
LEASE:	BRAQUET	_		
AREA:	WEESATCHE	_		
COUNTY:	GOLIAD	_		
DRILLING DATA	:			•
	DRILLER: ALONZO R	RAMERO	COMPANY	DIGGS DRILLING
	REAMED DEPTH: 165	<u></u>	DRIFT	
	HOLE SIZE: 9.875"	· · · · · · · · · · · · · · · · · · ·	MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME			
REMARKS:	Centralizers at 16,56,96,136			
3ING				
	JOINTS 9	<u>.</u>		
	TOP JOINT	-		
SURFACE ELEV		230.79		
TOP OF CASING	ABOVE SURFACE	232.12		
CEMENT				
	BARRELS CEMENT	0	SACKS CEMENT	38_
	TYPE CEMENT	0	LB GEL	50_
	LB CACL2	0	CEMENT WT.	13.4
DISPLACEMENT	Г			
	BBL FLUID	4.0_	BARITE SACKS	0.00
	GEL SACKS	0.00_	RETURNS	YES

E:	02/27/08			
vvELL NO:	32201 BMW-10			
LEASE:	BRAQUET			
AREA:	WEESATCHE			
COUNTY:	GOLIAD			
DRILLING DA	TA:			
	DRILLER: ALONZ	O RAMERO	COMPANY	DIGGS DRILLING
	REAMED DEPTH:1	62	DRIFT	
	HOLE SIZE: 9.8	75"	MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME			
		_		
REMARKS:	Centralizers at 17,57,97,13	· · · · · · · · · · · · · · · · · · ·		
				i managara
ING				
	JOINTS	9		
	TOP JOINT			
SURFACE ELI	EVATION	225.48		
TOP OF CASI	NG ABOVE SURFACE	227.80		
OFFERNIT				
CEMENT	DADDELC CEMENT	0	CACVO CEMENIT	37
	BARRELS CEMENT	0	SACKS CEMENT	
	TYPE CEMENT	0	LB GEL	50
	LB CACL2	0	CEMENT WT.	13.4
DISPLACEME	NT			
	BBL FLUID	4.0	BARITE SACKS	0.00
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS		

E:	02/21/08				
WELL NO:	32201 BMW-11				
LEASE:	BRAQUET				
AREA:	WEESATCHE				
COUNTY:	GOLIAD				
DRILLING DATA	\:		·		
	DRILLER:	ALONZO R	AMERO	COMPANY	DIGGS DRILLING
	REAMED DEPTH:	144		DRIFT	
	HOLE SIZE:	9.875"		MUD-TYPE:	PHP/GEL
	VIS:			WEIGHT	8.8#/GA
	DRILLING TIME				
REMARKS:	Centralizers at 21,6	1,81,121			
BING					
, iii V					
	JOINTS	8			
	TOP JOINT				
SURFACE ELEV	ATION		215.23		•
TOP OF CASING	ABOVE SURFACE		217.44		
CEMENT			•		
	BARRELS CEMENT	Γ	0	SACKS CEMENT	33
	TYPE CEMENT	•	0	LB GEL	50
	LB CACL2	•	0	CEMENT WT.	13.4
		•			
DISPLACEMENT	Г				
	BBL FLUID		3.0	BARITE SACKS	0.00
	GEL SACKS		0.00	RETURNS	YES
	GEL SACKS		0.00	INLIUNING	11.0

E:	02/19/08				
WELL NO:	32201 BMW-12				
LEASE:	BRAQUET				
AREA:	WEESATCHE				
COUNTY:	GOLIAD				
DRILLING DATA	:				
	DRILLER: ALC	ONZO R	AMERO	COMPANY	DIGGS DRILLING
	REAMED DEPTH:	142		DRIFT	
	HOLE SIZE:	9.875"		MUD-TYPE:	PHP/GEL
	VIS:			WEIGHT	8.8#/GA
	DRILLING TIME				
REMARKS:	Centralizers at 12,32,7	2 122			
KLWAKKS.	Centralizers at 12,52,7	Z, 122			
· BING					
, iii G					
	JOINTS	8			
	TOP JOINT				
SURFACE ELEV	ATION		214.61		
TOP OF CASING	ABOVE SURFACE	-	217.11		
CEMENT					
OLINLIA	BARRELS CEMENT		0	SACKS CEMENT	32
	TYPE CEMENT	•	0	LB GEL	50
	LB CACL2	•	0	CEMENT WT.	13.4
	LB CACL2	•	<u> </u>	CEMENT WI.	10.4
DISPLACEMENT	Г				
	BBL FLUID		3.0	BARITE SACKS	0.00
	GEL SACKS	•	0.00	RETURNS	YES
	CEMENTER	•	BRICE BAROS		

E:	02/18/08				
WELL NO:	32201 BMW-13				
LEASE:	BRAQUET				
AREA:	WEESATCHE				
COUNTY:	GOLIAD				
DRILLING DATA	:				
	DRILLER:	ALONZO R	AMERO	COMPANY	DIGGS DRILLING
	REAMED DEPTH:	156		DRIFT	Transfer and trans
	HOLE SIZE:	9.875"		MUD-TYPE:	PHP/GEL
	VIS:			WEIGHT	8.8#/GA
	DRILLING TIME				
REMARKS:	Centralizers at 25,4	5 85 125			
•				**************************************	
)ING					
<i>,</i> '					
	JOINTS	8			
	TOP JOINT				
SURFACE ELEV	ATION		223.53		
	A HON ABOVE SURFACE		225.76		
TOP OF CASING	ABOVE SURFACE	•	223.10		
CEMENT					
	BARRELS CEMEN	г _	0_	SACKS CEMENT	<u>35</u>
	TYPE CEMENT		0_	LB GEL	50_
	LB CACL2		<u> </u>	CEMENT WT.	13.4
DISPLACEMENT	Г				
	BBL FLUID		4.0	BARITE SACKS	0.00
	GEL SACKS	,	0.00	RETURNS	YES
	CEMENTER		BRICE BAROS		

Œ:	02/20/08			
VELL NO:	32201 BMW-14	<u>_</u>		
.EASE:	BRAQUET			
AREA:	WEESATCHE			
COUNTY:	GOLIAD			
RILLING DAT	ГА:			
	DRILLER: ALON	ZO RAMERO	COMPANY	DIGGS DRILLING
	REAMED DEPTH:	165	DRIFT	
	HOLE SIZE: 9	.875"	MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME			
REMARKS:	Centralizers at 10,50,90,1	44		
		1.500		
ING				
	JOINTS	9		
	TOP JOINT			
SURFACE ELI	EVATION	232.50		
TOP OF CASII	NG ABOVE SURFACE	234.51		
CEMENT				
	BARRELS CEMENT	0	SACKS CEMENT	
	TYPE CEMENT	0	LB GEL	50_
	LB CACL2	0	CEMENT WT.	13.4
DISPLACEME	:NT			
JOI LAOLINE	BBL FLUID	4.0	BARITE SACKS	0.00
	GEL SACKS	0.00	RETURNS	NO
	CEMENTER	BRICE BAROS		
	J-11,-11,-11			

E:	02/15/08				
WELL NO:	32201 BMW-15				
LEASE:	BRAQUET				
AREA:	WEESATCHE				
COUNTY:	GOLIAD				
DRILLING DATA	.:				
	DRILLER:	ALONZO RA	AMERO	COMPANY	DIGGS DRILLING
	REAMED DEPTH:	178		DRIFT	
	HOLE SIZE:	9.875"		MUD-TYPE:	PHP/GEL
	VIS:			WEIGHT	8.8#/GA
	DRILLING TIME				
REMARKS:	Centralizers at 20,8	80 120 160			
KLWAKKO.	Ochidalizoro de 20,0	70,120,100			
BING					
ж					
	JOINTS	10			
	TOP JOINT				
SURFACE ELEV	ATION	-	237.69		
TOP OF CASING	ABOVE SURFACE		239.85		
CEMENT					
	BARRELS CEMEN	IT	0	SACKS CEMENT	41
	TYPE CEMENT	•	0	LB GEL	50
	LB CACL2	•	0	CEMENT WT.	13.4
		•			
DISPLACEMENT	т				
	BBL FLUID		4.0	BARITE SACKS	0.00
	GEL SACKS		0.00	RETURNS	YES
	CEMENTER		BRICE BAROS		

E:	02/14/08	-		
WELL NO:	32201 BMW-16	_		
LEASE:	BRAQUET	-		
AREA:	WEESATCHE	-		
COUNTY:	GOLIAD	_		
DRILLING DATA	\:			
	DRILLER: ALONZO R	AMERO	COMPANY	DIGGS DRILLING
	REAMED DEPTH: 174	*****	DRIFT	
	HOLE SIZE: 9.875"		MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME			
DE114 D140	0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
REMARKS:	Centralizers at 33,73,113,153			
			· · · · · · · · · · · · · · · · · · ·	
ING				
	JOINTS 9			
-	TOP JOINT	-		
	***************************************	-		
SURFACE ELEV	ATION	230.59		
TOP OF CASING	ABOVE SURFACE	232.68		
CEMENT				
	BARRELS CEMENT	0	SACKS CEMENT	39
	TYPE CEMENT	0	LB GEL	50_
	LB CACL2	0	CEMENT WT.	13.4
DISPLACEMEN'	r			
DISPLACEMEN		4.0	BARITE SACKS	0.00
	BBL FLUID	4.0		
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS		

'E : -,	02/13/08	, , , - , - , - , - , - , - , - , - , -		
VELL NO:	32201 BMW-17			
EASE:	BRAQUET			
REA:	WEESATCHE			
COUNTY:	GOLIAD			
RILLING DAT	A:			
	DRILLER: ALC	NZO RAMERO	COMPANY	DIGGS DRILLING
	REAMED DEPTH:	159	DRIFT	
	HOLE SIZE:	9.875"	MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME			
	-			
		400		
REMARKS:	Centralizers at 22,40,80	1,120		
3ING				
	JOINTS	8_		
	TOP JOINT			•
		···		
SURFACE ELE	EVATION	225.22		
TOP OF CASIN	IG ABOVE SURFACE	227.25		
^~				
CEMENT	DARRELO OFMENT	0	SACKS CEMENT	37
	BARRELS CEMENT	0	LB GEL	50
	TYPE CEMENT	0		
	LB CACL2	0	CEMENT WT.	13.4
DISPLACEME	NT			
J.J. E.TOEIIL	BBL FLUID	4.0	BARITE SACKS	0.00
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS		
	· —			

Έ:	02/12/08			
WELL NO:	32201 BMW-18			
EASE:	BRAQUET			
AREA:	WEESATCHE			
COUNTY:	GOLIAD	·		
DRILLING DA	TA:			
	DRILLER: ALON	ZO RAMERO	COMPANY	DIGGS DRILLING
	REAMED DEPTH:	162	DRIFT	
	HOLE SIZE: 9.	875"	MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME			
	0 1 1 100 00 00 10			
REMARKS:	Centralizers at 22,60,80,1	20		
		•		
\max				
ЯNG				
	JOINTS	9		
	TOP JOINT			
SURFACE EL	EVATION	222.94		
TOP OF CASI	NG ABOVE SURFACE	225.18		
CEMENT				
CLINEIAI	BARRELS CEMENT	0	SACKS CEMENT	37
	TYPE CEMENT	0	LB GEL	100
				13.4
	LB CACL2	0	CEMENT WT.	10.4
DISPLACEME	ENT			
	BBL FLUID	4.0	BARITE SACKS	0.00
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS		
	J			

E:	03/26/08				
VELL NO:	32201 BMW-19				
EASE:	BRAQUET				
AREA:	WEESATCHE				
COUNTY:	GOLIAD				
RILLING DATA	A:				
	DRILLER:	RODNEY		COMPANY	DIGGS DRILLING
	REAMED DEPTH:	168		DRIFT	
	HOLE SIZE:	9.875"		MUD-TYPE:	PHP/GEL
	VIS:			WEIGHT	8.8#/GA
	DRILLING TIME				
DEMARKS.	Centralizers at 15,5	55 O5 135			
REMARKS:	Centralizers at 10,	33,33,133			
•					
				Maria 1, 201	
ing					
лю					
	JOINTS	9			
	TOP JOINT		•		
SURFACE ELE			225.39	•	
TOP OF CASIN	G ABOVE SURFACE		227.83		
CEMENT					
	BARRELS CEMEN	NT	0	SACKS CEMENT	38
	TYPE CEMENT		0	LB GEL	50
	LB CACL2		0	CEMENT WT.	13.4

DISPLACEMEN	IT				
	BBL FLUID		4.0	BARITE SACKS	0.00
	GEL SACKS		0.00	RETURNS	YES
•	CEMENTER		ALAN		

E:	03/25/08			
VELL NO:	32201 BMW-20			
.EASE:	BRAQUET			
AREA:	WEESATCHE			
COUNTY:	GOLIAD			
ORILLING DATA	Λ:			
	DRILLER: RODNEY		COMPANY	DIGGS DRILLING
	REAMED DEPTH: 164		DRIFT	
	HOLE SIZE: 9.875"		MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME			
	Ot-alimana at 10.50.00.120			
REMARKS:	Centralizers at 12,52,92,132			
\				
SING				
	JOINTS 10	_		
	TOP JOINT	_	·	
				
SURFACE ELE\	VATION	226.66		
TOP OF CASING	G ABOVE SURFACE	229.21		
OF MENT				
CEMENT	DADDELC CEMENT	0_	SACKS CEMENT	37
	BARRELS CEMENT	0	LB GEL	50
	TYPE CEMENT			13.4
	LB CACL2	0	CEMENT WT.	15.4
DISPLACEMEN	ır			
v .v	BBL FLUID	4.0	BARITE SACKS	0.00
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS		

Æ:	03/24/08			
VELL NO:	32201 BMW-21			
EASE:	BRAQUET			
AREA:	WEESATCHE			
COUNTY:	GOLIAD			
RILLING DATA	A :			
	DRILLER: RODNEY		COMPANY	DIGGS DRILLING
	REAMED DEPTH: 174		DRIFT	
	HOLE SIZE: 9.875"		MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME			
REMARKS:	Centralizers at 15,55,95,135			
ING				
į.				
	JOINTS 9			
	TOP JOINT			
CUREACE ELE	VATION	226.93		
SURFACE ELE		229.06		
IOP OF CASIN	G ABOVE SURFACE	229.00		
CEMENT				
	BARRELS CEMENT	0	SACKS CEMENT	39
	TYPE CEMENT	0	LB GEL	50
	LB CACL2	0	CEMENT WT.	13.4
DISPLACEMEN	IT			
	BBL FLUID	4.0	BARITE SACKS	0.00
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS	_	

Έ:	03/19/08			
WELL NO:	32201 BMW-22			
EASE:	BRAQUET			
AREA:	WEESATCHE			
COUNTY:	GOLIAD			
ORILLING DAT	ГА:			
	DRILLER: RODNE	Y	COMPANY	DIGGS DRILLING
	REAMED DEPTH:	176	DRIFT	
	HOLE SIZE: 9.8	375"	MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
REMARKS:	Centralizers at 17,57,97,13	37		
•				
SING				
	JOINTS	9		
	TOP JOINT			
SURFACE ELI	EVATION	227.75		
TOP OF CASI	NG ABOVE SURFACE	229.75		
CEMENT				
	BARRELS CEMENT	0	SACKS CEMEN	T <u>40</u>
	TYPE CEMENT	0	LB GEL	50
	LB CACL2	0_	CEMENT WT.	13.4
DISPLACEME	NT			
	BBL FLUID	4.0	BARITE SACKS	
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS		

E:	04/02/08				
VELL NO:	32201 OMW-1				
EASE:	BRAQUET				
REA:	WEESATCHE				
COUNTY:	GOLIAD				
RILLING DAT	г А :				
	DRILLER: RO	DNEY		COMPANY	DIGGS DRILLING
	REAMED DEPTH:	67		DRIFT	
	HOLE SIZE:	9.875"		MUD-TYPE:	PHP/GEL
	VIS:			WEIGHT	8.8#/GA
	DRILLING TIME				
DEMARKS.	Controlinors at 13				
REMARKS:	Centralizers at 43				
			<u> </u>		
SING					
SING					
	JOINTS	4			
	TOP JOINT				
SURFACE ELI		=	221.46	·	
TOP OF CASI	NG ABOVE SURFACE	-	223.57		
CEMENT	•				
	BARRELS CEMENT		5.2	SACKS CEMENT	15
	TYPE CEMENT	•	0	LB GEL	50
	LB CACL2		0	CEMENT WT.	13.4
		-	· · · · · · · · · · · · · · · · · · ·		
DISPLACEME	ENT				
	BBL FLUID	-	1.0	BARITE SACKS	0.00
	GEL SACKS		0.00	RETURNS	YES
	CEMENTER		BRICE BAROS		

E:	04/04/08			
VELL NO:	32201 OMW-2			
EASE:	BRAQUET			
REA:	WEESATCHE	_		
COUNTY:	GOLIAD	_		
RILLING DATA	\:			
	DRILLER: RODNEY		COMPANY	DIGGS DRILLING
	REAMED DEPTH: 80		DRIFT	
	HOLE SIZE: 9.875"		MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME			
REMARKS:	Centralizers at 10,40,70			
BING				
	JOINTS 5	_		
	TOP JOINT	_		
		-		
SURFACE ELE	VATION	230.73		
TOP OF CASING	G ABOVE SURFACE	232.43		
CEMENT				
	BARRELS CEMENT	6.2	SACKS CEMENT	
	TYPE CEMENT	0	LB GEL	50
	LB CACL2	0	CEMENT WT.	13.4
DIODI 40515511	ıT			
DISPLACEMEN		20	BARITE SACKS	0.00
	BBL FLUID	2.0		
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS		

E:	04/02/08				
WELL NO:	32201 OMW-3				
.EASE:	BRAQUET				
AREA:	WEESATCHE				
COUNTY:	GOLIAD				
ORILLING DA	TA:		9		
	DRILLER: B	RANDON		COMPANY	DIGGS DRILLING
	REAMED DEPTH: _	77		DRIFT	
	HOLE SIZE:	9.875"		MUD-TYPE:	PHP/GEL
	VIS:			WEIGHT	8.8#/GA
	DRILLING TIME				
REMARKS:	Centralizers at 17,57				
		-			
•					
ING					
	JOINTS	4			
	TOP JOINT				
	_				
SURFACE ELI	EVATION		226.84		
TOP OF CASI	NG ABOVE SURFACE		228.85		
EMENT					
	BARRELS CEMENT		5.9	SACKS CEMENT	
	TYPE CEMENT	,	0	LB GEL	50
	LB CACL2		0	CEMENT WT.	13.4
DISPLACEME	NT.				
NOFLACENE	BBL FLUID		2.0	BARITE SACKS	0.00
	GEL SACKS		0.00	RETURNS	YES
			-	ILLI OMNO	1LV
	CEMENTER		BRICE BAROS		

E:	04/03/08				
WELL NO:	32201 OMW-4				
LEASE:	BRAQUET				
AREA:	WEESATCHE				
COUNTY:	GOLIAD				
ORILLING DATA	:				
	DRILLER: B	RANDON		COMPANY	DIGGS DRILLING
	REAMED DEPTH:	90		DRIFT	
	HOLE SIZE:	9.875"		MUD-TYPE:	PHP/GEL
	VIS:			WEIGHT	8.8#/GA
	DRILLING TIME				
REMARKS:	Centralizers at 10,50,8	30			•
					4.444.444
\					
ING					
	JOINTS	5			
	TOP JOINT			•	
SURFACE ELEV	ATION	_	236.26		
TOP OF CASING	ABOVE SURFACE	-	237.92		
OFMENIT					
CEMENT	PARREL C CEMENT		6.0	SACKS CEMENT	20
	BARRELS CEMENT	-	6.9		50
	TYPE CEMENT	-	0	LB GEL	
	LB CACL2	-	0	CEMENT WT.	13.4
DISPLACEMENT	r				
D.J. D.OLINEII	BBL FLUID		2.0	BARITE SACKS	0.00
	GEL SACKS	-	0.00	RETURNS	YES
	CEMENTER	•	BRICE BAROS		
	OCIVILIY (CIV		2. (OE 2/ (100		

E:	04/02/08			
VELL NO:	32201 OMW-5	-		
EASE:	BRAQUET	-		
REA:	WEESATCHE			
COUNTY:	GOLIAD	-		
RILLING DAT	A :			
	DRILLER: BRANDON		COMPANY	DIGGS DRILLING
	REAMED DEPTH: 90		DRIFT	
	HOLE SIZE: 9.875"		MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME			
REMARKS:	Centralizers at 10,50,80			
i				
SING			•	
	JOINTS 5	_		
	TOP JOINT	_		
SURFACE ELE	EVATION	235.46		
TOP OF CASIN	NG ABOVE SURFACE	237.60		
oelselit.				
CEMENT	DARREI & CEMENT	6.9_	SACKS CEMENT	20_
	BARRELS CEMENT	0.5	LB GEL	50
	TYPE CEMENT	0	CEMENT WT.	13.4
	LB CACL2	<u> </u>	CEMENT VVI.	10.1
DISPLACEME	NT			
	BBL FLUID	2.0	BARITE SACKS	0.00
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS		

E:	04/03/08			
VELL NO:	32201 OMW-6			
EASE:	BRAQUET			
AREA:	WEESATCHE			
COUNTY:	GOLIAD	<u> </u>		
ORILLING DAT	ГА:			
	DRILLER: RODNEY		COMPANY	DIGGS DRILLING
	REAMED DEPTH: 9	4	DRIFT	
	HOLE SIZE: 9.87	5"	MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME			
REMARKS:	Centralizers at 14,44,74			
iNG				
	IONITO	r		
		<u>5</u>		
	TOP JOINT			
SURFACE ELE	EVATION	233.57		
	NG ABOVE SURFACE	235.73		
101 01 0/1011	(O) (DO V L OO) (() () ()			
CEMENT		•		
	BARRELS CEMENT	7.3	SACKS CEMEN	T <u>21</u>
	TYPE CEMENT	0_	LB GEL	50_
	LB CACL2	00	CEMENT WT.	13.4
DISPLACEME	NT			
	BBL FLUID	2.0	BARITE SACKS	0.00
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS		

E:	04/02/08			
VELL NO:	32201 OMW-7			
.EASE:	BRAQUET	war of the Proceedings		
AREA:	WEESATCHE			
COUNTY:	GOLIAD			
ORILLING DA	TA:			
	DRILLER: ROD	NEY	COMPANY	DIGGS DRILLING
	REAMED DEPTH:	90	DRIFT	
	HOLE SIZE:	9.875"	MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME			
REMARKS:	Centralizers at 10,50,80			
	e			
	The state of the s			1. 100 3.000 7.000 7.000

SING				
	JOINTS	5		
	TOP JOINT			
SURFACE ELI	EVATION	235.05		
OP OF CASI	NG ABOVE SURFACE	236.98		
>======				
CEMENT	BARRELS CEMENT	6.9	SACKS CEMENT	20
	TYPE CEMENT	0.9	LB GEL	50
	LB CACL2	0	CEMENT WT.	13.4
	LB CMULZ		CEIVIEIN I VV I .	13.4
DISPLACEME	NT			
	BBL FLUID	2.0	BARITE SACKS	0.00
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS		

E:	04/03/08			
WELL NO:	32201 OMW-8			
_EASE:	BRAQUET			
AREA:	WEESATCHE			
COUNTY:	GOLIAD			
DRILLING DA	TA:			
	DRILLER: BRANDO	ON	COMPANY	DIGGS DRILLING
	REAMED DEPTH: 8	39	DRIFT	
	HOLE SIZE: 9.87	7 5"	MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME	_		
REMARKS:	Centralizers at 9,49,79			
SING				
	JOINTS	5		
	TOP JOINT	_ 	•	
SURFACE ELI	EVATION	230.80		
TOP OF CASI	NG ABOVE SURFACE	232.94		
CEMENT				
	BARRELS CEMENT	6.9	SACKS CEMENT	
	TYPE CEMENT	0	LB GEL	50
	LB CACL2	0	CEMENT WT.	13.4
DISPLACEME				0.6-
	BBL FLUID	2.0	BARITE SACKS	
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS		

E:	04/03/08			
VELL NO:	32201 OMW-9	···		
EASE:	BRAQUET			
REA:	WEESATCHE			
OUNTY:	GOLIAD			
RILLING DA	TA:			
	DRILLER: RODI	NEY	COMPANY	DIGGS DRILLING
	REAMED DEPTH:	84	DRIFT	
	HOLE SIZE:).875"	MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME			
DEMARKS.	Controlinors at 14 44 74			
REMARKS:	Centralizers at 14,44,74			
	***		Market Control	A Market 1 A
:				
iNG				
	JOINTS	5		
	TOP JOINT			
URFACE ELI	EVATION	228.31		
OP OF CASI	NG ABOVE SURFACE	230.39		
\				
EMENT	DADDELO CEMENT	6.6	SACKS CEMEN	Т <u>19</u>
	BARRELS CEMENT	6.6		50
	TYPE CEMENT	0	LB GEL	
	LB CACL2	0	CEMENT WT.	13.4
DISPLACEME	:NT			
	BBL FLUID	2.0	BARITE SACKS	0.00
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS		·
		21110L D/1100		

E:	04/01/08			
VELL NO:	32201 PTW-1			
EASE:	BRAQUET			
AREA:	WEESATCHE			
COUNTY:	GOLIAD	·		
RILLING DAT	Γ Α :			
	DRILLER: RODI	NEY	COMPANY	DIGGS DRILLING
	REAMED DEPTH:	158	DRIFT	
	HOLE SIZE:	9.875"	MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME			
REMARKS:	Centralizers at 18,48,88,	128		· · · · · · · · · · · · · · · · · · ·
ING				
	JOINTS	9		
	TOP JOINT			
SURFACE ELE	EVATION	224.03		
OP OF CASIN	IG ABOVE SURFACE	226.49		
EMENT				
	BARRELS CEMENT	12.4	SACKS CEMENT	
	TYPE CEMENT	0	LB GEL	50
	LB CACL2	0	CEMENT WT.	13.4
DISPLACEME			DARITE CACAS	0.00
	BBL FLUID	4.0	BARITE SACKS	0.00
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS		

E:	04/01/08	_		
WELL NO:	32201 PTW-2	_		
EASE:	BRAQUET			
AREA:	WEESATCHE	_		
COUNTY:	GOLIAD	_		
ORILLING DATA	\:			
	DRILLER: BRANDON		COMPANY	DIGGS DRILLING
	REAMED DEPTH: 179		DRIFT	
	HOLE SIZE: 9.875"		MUD-TYPE:	PHP/GEL
	VIS:	<u></u>	WEIGHT	8.8#/GA
	DRILLING TIME			
REMARKS:	Centralizers at 19,59,99,139			
ING				
	JOINTS 9			
	TOP JOINT	•		
SURFACE ELEV	'ATION	233.62		
	ABOVE SURFACE	235.95		
0, 0, 0, 0, 10	77.55 72 557.11 7.52			
EMENT				•
	BARRELS CEMENT	14.2	SACKS CEMENT	41
	TYPE CEMENT	0	LB GEL	50
	LB CACL2	0	CEMENT WT.	13.4
	_			
DISPLACEMENT				
	BBL FLUID	4.0	BARITE SACKS	0.00
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS		

E:	03/31/08			
VELL NO:	32201 PTW-3			
.EASE:	BRAQUET			
AREA:	WEESATCHE			
COUNTY:	GOLIAD			
RILLING DAT	ГА:			
	DRILLER: BRAN	DON	COMPANY	DIGGS DRILLING
	REAMED DEPTH:	174	DRIFT	
	HOLE SIZE: 9.	875"	MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME			
2514 4 5140	0	^		
REMARKS:	Centralizers at 16,56,96,13	0		
		nde a solid file.		
ing				
MG				
	JOINTS	9		
	TOP JOINT			
SURFACE ELE	EVATION	236.63		
OP OF CASIN	IG ABOVE SURFACE	238.93		
CEMENT				
JEINEI I	BARRELS CEMENT	13.5	SACKS CEMENT	. 39
	TYPE CEMENT	0	LB GEL	50
	LB CACL2	0	CEMENT WT.	13.4
	LD ONOLZ		CLIVICITY VVI.	
DISPLACEME	NT			
	BBL FLUID	4.0	BARITE SACKS	0.00
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS		

E:	03/28/08			
VELL NO:	32201 PTW-4			
EASE:	BRAQUET			
REA:	WEESATCHE			
OUNTY:	GOLIAD			
RILLING DA	TA:			
	DRILLER: RODNE	Υ	COMPANY	DIGGS DRILLING
	REAMED DEPTH: 17	7 6	DRIFT	
	HOLE SIZE: 9.87	75"	MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME			
REMARKS:	Centralizers at 17,57,97,137	-		
SING				
	JOINTS	9		
	TOP JOINT			
SURFACE ELI	EVATION	231.10		
OP OF CASI	NG ABOVE SURFACE	233.39		
CEMENT				
	BARRELS CEMENT	0	SACKS CEMENT	40
	TYPE CEMENT	0	LB GEL	50
	LB CACL2	0	CEMENT WT.	13.4
DISPLACEME				
	BBL FLUID	4.0	BARITE SACKS	0.00
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS		

E:	03/31/08				
VELL NO:	32201 PTW-5				
EASE:	BRAQUET				
REA:	WEESATCHE				
OUNTY:	GOLIAD				
RILLING DATA	A:				
	DRILLER:	RODNEY		COMPANY	DIGGS DRILLING
	REAMED DEPTH:	175		DRIFT	
	HOLE SIZE:	9.875"	1.2.2000	MUD-TYPE:	PHP/GEL
	VIS:			WEIGHT	8.8#/GA
	DRILLING TIME				
	Controlinoro et 17 E	7 07 127			
REMARKS:	Centralizers at 17,5	1,91,131			
•					
ING					
JING					
	JOINTS	9			
	TOP JOINT				
SURFACE ELE	VATION		232.72		
OP OF CASIN	G ABOVE SURFACE		235.00		
EMENT					
/LINEIN I	BARRELS CEMEN	т	13.8	SACKS CEMENT	40
	TYPE CEMENT	•	0	LB GEL	50
		•	·	CEMENT WT.	13.4
	LB CACL2		0	CEIVIEIN I VVI.	13.4
DISPLACEMEN	іт				
	BBL FLUID		4.0	BARITE SACKS	0.00
	GEL SACKS	•	0.00	RETURNS	YES
	CEMENTER	•	BRICE BAROS		

E:	03/27/08			
WELL NO:	32201 PTW-6			
EASE:	BRAQUET			
AREA:	WEESATCHE			
COUNTY:	GOLIAD			
DRILLING DA ⁻	ГА:			
	DRILLER: RODNI	EY	COMPANY	DIGGS DRILLING
	REAMED DEPTH:	174	DRIFT	
	HOLE SIZE: 9.8	875"	MUD-TYPE:	PHP/GEL
	VIS:		WEIGHT	8.8#/GA
	DRILLING TIME			
REMARKS:	Centralizers at 15,55,95,13	5		
KLINAKKO.	Octivalizate de Tojoojooj To			
SING				
,,,,,				
	JOINTS	9		
	TOP JOINT			
SURFACE ELI		227.51		
TOP OF CASI	NG ABOVE SURFACE	229.93		
CEMENT	•			
	BARRELS CEMENT	0_	SACKS CEMENT	39_
	TYPE CEMENT	0	LB GEL	50
	LB CACL2	0	CEMENT WT.	13.4
DISPLACEME	NT			
	BBL FLUID	4.0	BARITE SACKS	0.00
	GEL SACKS	0.00	RETURNS	YES
	CEMENTER	BRICE BAROS		